

Alb. & Lucy D.M.

AMERICAN

RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, *Editor.*

SATURDAY, JULY 26, 1856.

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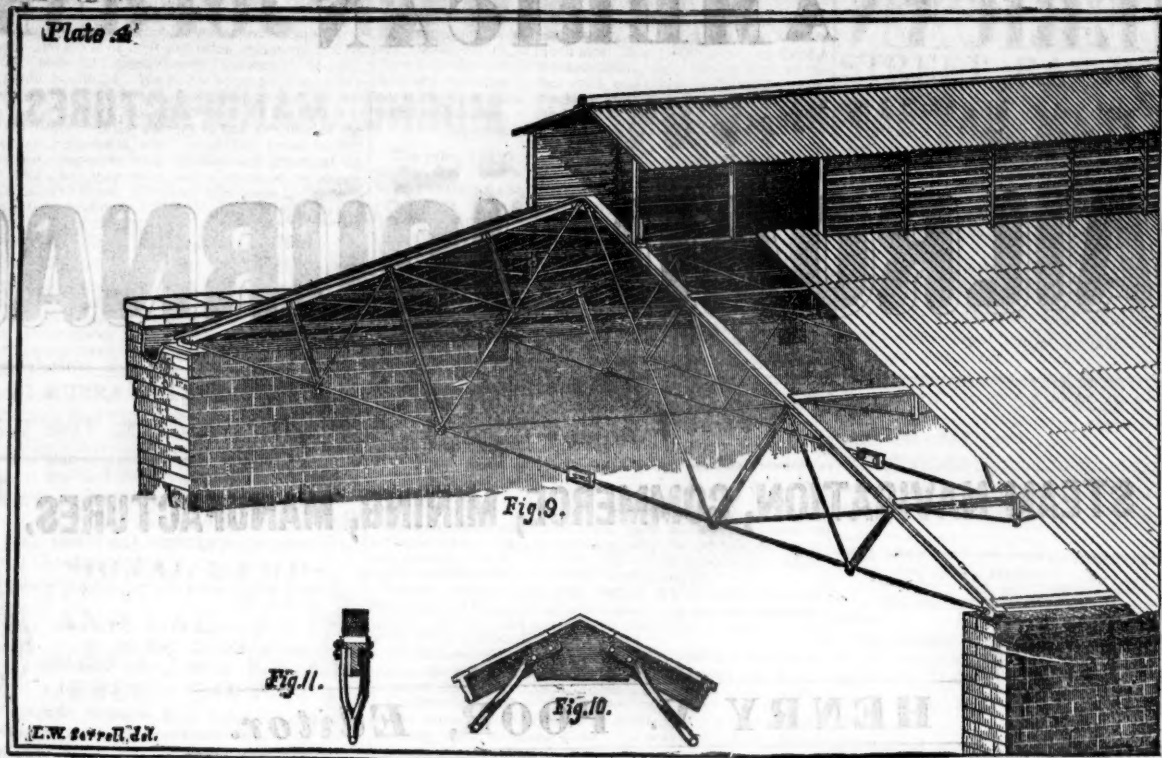
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NEW-YORK:

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JOHN H. SCHULTZ & CO.**

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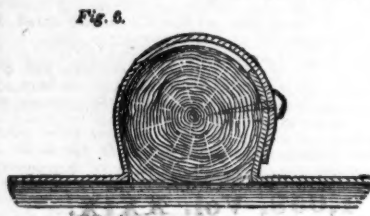


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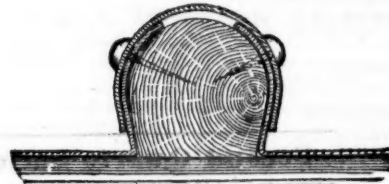
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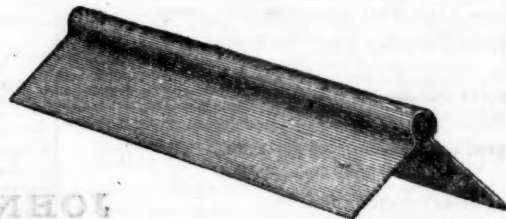
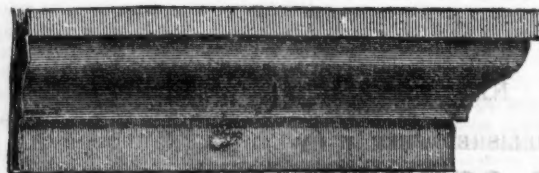


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SECOND QUARTO SERIES, VOL. XII., No. 30.]

SATURDAY, JULY 26, 1856.

[WHOLE No. 1,068, VOL. XXIX.]

Messrs. ALGAR & STREET, No. 11 Clements Lane, Lombard Street, London, are the authorised European Agents for the Journal.

PRINCIPAL CONTENTS.

Pacific Railroad of Missouri.....	465
Commercial Tonnage of the United States....	468
Pittsburg and Connellsville Railroad.....	469
Union Railroad Depot at Troy.....	469
Central Ohio Railroad.....	469
The Locomotive.....	472
Freehold and Jamesburg Agricultural R. R.....	472
Late Disaster on the North Pennsylvania R. R.....	473
Railroad Bridges—New Construction.....	474
Railroad Earnings.....	474
Railroad Accommodations at Toledo.....	474
New York Central Railroad.....	475
Florida Railroad.....	475
Oceanic Telegraph.....	476

American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

[New York, Saturday, July 26, 1856.]

Pacific Railroad of Missouri.

We give below the recent exhibit of this important work. The whole road will be something over six hundred miles long, and will cost some \$20,000,000. The main line occupies a route on which a large business is already developed.—The South-western branch, which takes the greater part of the lands granted by Congress, runs through an excellent, though rather thinly settled country; and which is one of the richest in the United States in copper, lead and coal. We believe this route possesses all the elements necessary to furnish a lucrative traffic. We commend the statement of the company to the careful attention of the public, and hope soon to see the company in a position, which shall enable them speedily to accomplish the great undertaking.

SYNOPSIS OF LAWS.

The Pacific railroad was incorporated by an act of the General Assembly of the State of Missouri, approved March 12th, 1849; the act authorized the formation of a company, with a capital of ten millions of dollars, divided into shares of one hundred dollars each, for the construction of a railroad from St. Louis, via Jefferson city, to some point on the western boundary of the State, in what is now Cass county.

By an Act entitled, "An act to expedite the con-

struction of the Pacific railroad, and the Hannibal and St. Joseph railroad, approved February 22d, 1851, a loan of the credit of the State, to the amount of two millions of dollars, was granted to this road, for which, bonds of the State, having twenty years to run, and bearing six per cent. interest per annum, were to be issued to the company, in sums of fifty thousand dollars, upon satisfactory evidence being furnished the Governor at each application that a like sum of fifty thousand dollars had been expended by the company, of money derived from sources other than State bonds; thus limiting the use of State credit to one-half the cost of the road, the company to pay the interest and principal of the bonds issued to them, to secure which, the act gives the State a first mortgage upon the road.

At the same session of the Legislature, an Act was passed, approved March 1st, 1851, amendatory of the act of incorporation, taking off the restrictions requiring a location through Jefferson city, and terminating in Cass county, and in lieu thereof, allowing the company to locate upon any line from St. Louis to the western boundary of the State, and otherwise enlarging and defining the powers of the corporation.

On the 10th of June, 1852, an Act of Congress was passed, granting to the State of Missouri, equal to six sections of land per mile, for the construction of a railroad from St. Louis to the western boundary of the State.

By an Act of the General Assembly, approved December 25th, 1852, the land above mentioned was granted to the Pacific railroad, for the construction of a road from St. Louis, along the main line of the Pacific railroad, to a point east of the Osage river, and then on a line of road striking the western boundary of the State south of the Osage river, at any point the company might select.—This road was to be designated from the point of divergence from the main trunk line, as the South West Branch.

The same act provided for a grant of one million, of State credit, to aid in the construction of the Southwest Branch, upon certain conditions therein named. It further provided for the location of the main trunk line via Jefferson city, thence by the most practicable inland route thro Johnson county, and terminating at any point the company might select in Jackson county, provided the sum of four hundred thousand dollars should be subscribed to the capital stock, by the counties along the line, west of Jefferson city.—The same act granted a further loan of one million, of State credit, to aid in the construction of the Main Trunk Line.

At the same session, a general railroad law was passed, authorizing the formation of railroad corporations, providing in detail for condemning the right of way, and requiring all railroad companies

to adopt the gauge of five feet six inches for their track. This act was approved February 24th, 1853.

By an act approved the same day, the Pacific railroad was authorized to extend, construct and operate their road to any point west of the State boundary line.

By an act approved February 10th, 1855, the law in regard to issuing State bonds, was so amended, as to authorize their delivery to the different companies, in any amounts, by showing an expenditure entitling them to the amount applied for, and authorizing the companies to sell the bonds at the market price; the old law required each issue to be for fifty thousand dollars, which must be expended, and a like sum from other sources, before making a further application; it also required the bonds to be sold at not less than par.

The "Act to secure the completion of certain railroads in this State," which passed December 10th, 1855, grants to the Pacific railroad, for the construction of the Main Trunk road, a further loan of two millions of State bonds, and provides for the transfer of the million of dollars of State bonds, heretofore granted to the Southwest Branch, to aid in the construction of the main road, west of Jefferson city, the issue of bonds to be as two for one, on the expenditure of money derived from other sources.

By the same act, it was provided that the company shall issue bonds to the amount of ten million dollars, for the construction of the Southwest Branch, secured by mortgage upon the Southwest Branch road, and about one million acres of land, and further, to aid the construction of this important road, it was provided that the State should guarantee three millions of the bonds thus provided for, the proceeds of the guaranteed bonds to be expended upon the first division of the road, extending from Franklin, to a point beyond the Gasconade river, 114 miles distant from where the branch diverges from the main road, the guaranteed bonds to be issued in sums of one hundred thousand dollars, requiring an expenditure of fifty thousand dollars from other sources, for every hundred thousand dollars of guaranteed bonds.—But, in case of a sale of a larger amount than one hundred thousand dollars, at one time, the guarantee shall be given, and the proceeds paid over to the State Treasurer, to be paid out to the company upon the ratio of two for one expended from other sources. This act requires the first division of the Southwest Branch to be completed within three years from the 10th of December, 1855, under penalty of forfeiture to the State, of the road and land, subject, however, to the mortgage above mentioned.

There is a further provision in the law, giving the right of pre-emption to settlers on the land of

the company outside of the six miles and within fifteen miles. This will include about 40,000 acres that the company may have to sell, at \$2.50 per acre, to the settlers.

The law last mentioned, was passed, and sent to the Governor for his approval, who returned it with his veto; the bill was then passed by the constitutional majority, through both Houses, was properly certified by the presiding officers, and deposited in the proper department with the other laws.

The Governor's attention being called to what was supposed to be some irregularities in the passage of the bill after it was returned with his objections, he submitted the questions to the Attorney-General, who, upon technical grounds, declared the law invalid. To settle the question, an agreed case was made up, presenting the facts and records, and submitted to the Supreme Court, in the form of a petition for a mandamus against the Governor, requiring him to issue bonds to the Pacific railroad.

The Supreme Court unanimously decided the law to be valid, and in conformity with the requirements of the constitution, thus putting all questions as to the validity of the law, forever at rest.

The law as passed is popular, and fully approved of by a large majority of the people of the State.

CONSTRUCTION OF SOUTHWEST BRANCH.

The work on this road was commenced by Diven, Stanciliffe & Co., in September, 1855, under an old contract entered into with them in March, 1854, for the construction of the Branch road. Since the passage of the railroad law of December 10th, 1855, this contract has been modified as to the manner of payments and the time of completion of contract, so as to conform to the requirements of the law.

By this contract, Messrs. Diven, Stanciliffe & Co. agree to build a first class railroad, including graduation, masonry, bridges, superstructure, ballasting, sidings, wood-sheds, water tanks, fencing, etc., all specified in detail, and the work and material to be equal in quality to the work on the first division of the Pacific railroad, and the whole made satisfactory to the company's engineer.

The company having the right to put on force at contractors' expense, if they fail to press the work; also, the right to stop the work, or limit the amount at any time, by giving contractors ninety days' notice. Payments to be made monthly, as the work progresses, less fifteen per cent., which is retained as a guarantee for the faithful performance of the contract, to the extent of one hundred thousand dollars.

The contractors to receive, for construction of the whole road complete, the sum of seven millions six hundred and seventy-one thousand six hundred and eighty dollars. This amount was based upon the engineer's estimate of quantities, and the contract provides for additional compensation to the contractors, if the quantities exceed the estimates; but they take the risk of rock or hard pan excavation, if the aggregate is within the quantity of yards specified in the estimates.

Great improvements have since been made, by a re-location of a part of the line, embracing the heavy work, and no apprehension is now entertained of an excess in quantities, and the price named may be considered as the total cost of the road, exclusive of rolling stock.

The company have the right to stop the work at any point within twenty miles of the State line, by giving notice to the contractors before they have commenced work on that portion of the line; and in case the work is so terminated, the estimated value of that part of the work is to be deducted from the contract price of the road.

The company's title to the land will be complete when the road reaches a point within twenty miles of the State line, and the town of Neosho. It is expected, will be the present terminus of the road.

CHARACTER OF THE COUNTRY.

The death of Mr. O'Sullivan, the Chief Engineer, on the first of November last, created a vacancy

in that office, which was not permanently filled until the first of June, 1856, by the election of Edward Miller, Esq., of Pennsylvania. Mr. Miller has not yet had time to examine the line of road, or report on the character of country through which it passes.

The Southwest Branch was surveyed and located during the year 1853, under the immediate charge of James K. Ford, Esq., now of New York.

The following remarks are extracted from Mr. Ford's report to the Chief Engineer:

"For the more conveniently considering this subject, I have divided the portion of the State tributary to this road into three portions, each of which has its distributive characteristics of soil, mineral and agricultural products, and of the grades and curves on that portion of the road within its limits.

"The first division extends from the main stem of the Pacific railroad about forty miles from St. Louis, near the west line of St. Louis county, to the Gasconade river, at the mouth of Little Piney, a distance of about ninety miles. The line is mostly on the ridge, or divide, between the waters of the Meramec and those of the Bourbeuse; it descends the valley of Beaver creek to Little Piney, and down that stream to its mouth.

"The country traversed by and tributary to this portion of the road, is rich in iron, lead and copper, the Meramec iron works are within six miles of the road, and several mines of lead and copper are now successfully worked.

"There are two iron works on the Meramec—the Moselle, at the mouth of the Bourbeuse, and the Meramec or James' at the Great Spring, near the mouth of the dry fork of the Meramec.

"James' works consists of one furnace, several bloomeries and a rolling mill. Their ore banks are inexhaustible, and their iron of superior quality. Their water power is the best in the State. Another iron furnace has been commenced on the south side of the Meramec, near the Moselle works; but operations have been suspended for the present, though not because of any deficiency of ore.

"Iron ore is in sufficient abundance on other parts of the Meramec to warrant the erection of furnaces, if proper facilities were afforded for sending the products to market.

"The lead furnaces on the Meramec, are as follows, to wit: Thews & Vallies', which smelts the products of the Mount Hope and Cove leads.—These leads are vertical, and of good strength, and will produce a permanent yield of ore. I. N. Inge's furnace is 'Virginia Lead,' the richest and strongest vertical lead vein ever opened in the United States, but not worked very much now, for want of capital and mining enterprise to work it below its present levels, now about 260 feet from the surface, to which depth it has been worked by horse power. There are three other lead furnaces on the Meramec—Gallagher's, Hibler's and Chapman's. The yield of these furnaces is not known, as no steady mining is carried on in their vicinity, for want of the requisite capital, and mining experience to penetrate below the mere surface of the earth, and for want of transportation.

"No vertical lead veins have been discovered above the 'Virginia Lead,' but nearly every hill bordering the Meramec, from this point to the Courtois creek, a distance of about forty miles, will yield more or less lead; the formation being that of magnesian limestone, known as the 'lead bearing rock.' The lead ore, so far as discovered, exists in horizontal layers, beds or veins (in this region) at different elevations, which have not been opened, except in a few instances. The mining now carried on consists in searching for the loose ore beneath the clay on the sides of the hills, where its rocky inclosure has decayed, and left the ore free and easily to be obtained by the pick and shovel of the most inexperienced miner.—When capital and mining experience are entered in business, it is believed the yields of lead ore on the Meramec will be very large.

"In addition to the lead veins already referred to, there are several other veins which yield well, though not yet proven to be vertical veins. These

are the Gonerelly and Berthold mines, the Thomas mine, Clark and Westover mines, Green's diggings, Mineral Hill diggings, and Frank and William's mines—all of which yield well, when mined with judgment. There are two copper furnaces—one owned by the Stanton Copper Company of St. Louis; the other by the Meramec Copper Co. Only one, the Stanton Copper Company's has been in operation the last year.

"Each company own several valuable copper mines along the Meramec.

"Clark and Hibler also own several, which have been only far enough explored to show that they were valuable mines.

"Mr. A. Park is owner of several copper mines of value, and has been opening one or two the last year on the Indian creek, a tributary of the Meramec. None of these mines, except those of the Stanton Copper Company, have been opened deeper than can be done by a common hand windlass, yet the yield has in some instances been very promising. The Stanton Copper Company have been working with horse power the last year; and the rich yield of their mine has induced them to resort to steam power, in order to descend to greater depths, and richer ores.

"As an agricultural country, it is not equal to the region farther west; the ridges are rocky and not very fertile—but the valleys are very productive.

"The second division extends from the mouth of the Little Piney to Springfield, a distance of about one hundred and five miles. Immediately to the south, on the head waters of the Meramec, St. Francis, Big Black, and Current river, and on the tributaries of the Gasconade, are very extensive pine forests. The pine from the head waters of Indian Creek, the Bazile, and Courtois will find its way to market over the South-western Branch, though it lies from twelve to twenty miles from the line of road. But the largest portion, for the present, will come from the Piney Creek, and other parts of the waters of the Gasconade. It is estimated that there are from thirty to forty pine saw-mills on these waters, the products of which, sent down the river, are from three to four million feet annually. The dangers and uncertainties of the river navigation operate to the serious injury of this trade. Some of the large lumber dealers were nearly ruined last year, by the loss of rafts on the Missouri. There is a good reason for believing that all the lumber sent to St. Louis will seek conveyance by the railroad, and in addition a large business be established for the broad prairie plains of the South-west.

"The line after leaving the valley of the Gasconade, lies upon the ridge between the Osage and Gasconade. From this westward, the character of the country begins to change, the ridge becomes broader, the declivities are less abrupt, the valleys wider, and a larger proportion of the land seems to be fertile and productive. I am not aware of any minerals having been discovered in this division.

"The third division extends from Springfield to the State line, a distance of about ninety miles. About thirty miles west of Springfield, the line leaves the summit between the Osage and White river waters; and passing down one branch of Spring river, and up another, it crosses into the valley of Clear Creek, down that to Shoal Creek, and down that to the mouth of Hickory Creek, near Neosho; then up a small tributary of Hickory, to the head of Lost Creek, and down that stream to the State line, at a point about twenty-five miles north of the Arkansas line.

"The region traversed by this division is of the richest and most fertile nature; broad prairies slightly undulating, wide valleys, gentle declivities of varied character, but all fertile, constitute the greater portion of this part of the State. Near Neosho, the line passes through an immense deposit of lead ore, which has been found to extend over an area of more than five hundred square miles. The ore is exceedingly abundant, and easily mined; it yields over 70 per cent. of lead, of the best and softest quality. At present only

one furnace is employed in smelting the lead, and that is only worked two or three months in the year. The pigs are hauled in wagons twenty miles to the Neosho river, sent in flat-boats down to Fort Smith, and thence in steamboats down the Arkansas, and Mississippi to New Orleans, and thence by sea to New York. This can only be done for a few months in the Spring; and though the profits are sufficiently remunerative, the great want of capital has hitherto prevented the working these mines to any great extent. It would be difficult to estimate correctly the amount that would be made and sent to market, were there a regular, cheap and speedy communication by railroad with St. Louis.

"Coal is also found in the vicinity of the line, and Shoal, Hickory, and Spring creeks on the north, and Buffalo on the south, afford abundant supplies of power for machinery."

Beyond the terminus lies a vast and fertile territory, now inhabited by the numerous Indian tribes accumulated there by the policy of the Government. Many of these tribes are partially civilized, and engaged in agriculture. Immediately beyond lay fields of salt, and thousands of acres covered with gypsum.

The settlement and improvement of the country along the line of road, since the date of Mr. Ford's report, has been rapid and encouraging. Emigrants, led by the beauty and fertility of the country, and encouraged by the prospects of an outlet to market by railroad, have flocked thither in great numbers, such as to nearly double the population of some counties in three years, and make new developments as to the value and importance of that part of the State.

The most rugged and broken country on the line is in the region of the Gasconade river, and extending about forty miles, being from the point where the road begins to descend towards the river, to where it reaches the top of the ridge beyond the Gasconade.

Although not presenting the beautiful and undulating prairies that abound on other portions of the line, yet even here the soil is rich, abounding in the best of timber, and of large size—such as oak, walnut, maple, hickory and ash—all valuable for the St. Louis market, and will be available for that purpose.

The bottom lands along the Gasconade, although irregular, are very fertile, producing the finest of corn and other grains.

As the road approaches Lebanon, it enters upon a plateau of beautiful upland, known as the divide between the Osage and Gasconade. Extending southwest, it expands, separating the waters of White river and Osage, and, further on, the waters of the Neosho from those of White river and Osage, forming an extent of table land scarcely equalled in extent and beauty in any part of the West. The division into prairie and wood land is most propitious—about two-thirds prairie and one-third timber. None of the prairies are large, so that every farm must be convenient to timber. Running springs afford excellent water; the country is free from swamps, and considered healthy.

THE GREAT LEAD REGION.

The lead region near Neosho, as mentioned by Mr. Ford, is now being developed. Late discoveries have been made, and, at this time, several hundred men are engaged in digging for mineral, and with the most encouraging success. Extravagant accounts have been forwarded to the railroad office of the great value of the lands belonging to the company in that region for their mineral wealth. It is represented by intelligent citizens of that part of the State, that the lead mines extend over many thousands of acres of the company's land, and some tracts have been valued as being worth one thousand dollars per acre for the whole tract.

Miners' claims for discoveries (being the privilege of digging upon the company's land) have been sold at \$1,200 and \$1,500 for 150 ft. square, subject, of course, to such rent as the company may claim. A few weeks ago Messrs. Harkleroda

sent a written proposition to the railroad company, proposing to lease one tract of land for ten years, and pay one thousand dollars per year, rent, for the privilege of working the mines on the same.

The company expect to have the mining region thoroughly examined without delay by the State Geologist, (Professor Swallow,) and learn, as far as practicable, the extent and value of the mines situated on their land.

From the information derived from various sources within the last three months, no doubt is entertained that the company own many thousands acres of land of tenfold more value than heretofore estimated.

There is said to be one remarkable feature about these mineral lands—they are generally rich agricultural lands. Lead deposits are often found in the most fertile prairies. The writer of this might be justified in using more positive terms in speaking of the extent and value of these mines, as the information derived from various sources all goes to confirm the most extravagant statements of their extent and richness, but he prefers to await the scientific and detailed report by Professor Swallow.

THE EXTENT OF COUNTRY ON THE SOUTH-WEST BRANCH.

Mr. Ford, in his report, estimates the extent of country tributary to the South-west Branch as equal to nineteen thousand four hundred and fifty square miles—a territory larger than the three States of Vermont, Massachusetts and Rhode Island; and an examination of the map will satisfy any one that this estimate is not exaggerated, as the geographical formation of that region must always make the country now tributary to that line of road remain so. It embraces a part of the counties of Franklin, Washington, Gasconade, and Miller, and all of the counties of Crawford, Dent, Pularski, Camden, Leclaire, Texas, Wright, Dallas, Hickory, Cedar, Polk, Dade, Jasper, Green, Lawrence, Ozark, Taney, Stone, Barry, McDonald, and Newton; to the country thus tributary may be added the counties of Washington, Benton, and Madison, in Arkansas, the southern end of Kansas Territory, and the Indian Territory north of the Arkansas river.

THE MEANS FOR CONSTRUCTING THE SOUTH-WEST BRANCH.

The lands granted to the Company for the construction of a road from St. Louis to the western boundary of the State amount to 1,167,000 acres; of this amount, 127,000 acres belong to the main road, being for the first thirty-seven miles of road between St. Louis and the commencement of the branch road, leaving one million and forty thousand acres as belonging to the branch road.

The Company have executed a mortgage upon this land, and also including the road to be constructed, to secure the payment of ten million dollars of the Bonds of the Company, payable in twenty years, with seven per cent. interest, payable semi-annually.

Of these Bonds, the State of Missouri guarantees the payment of three millions of dollars, requiring the proceeds of said guaranteed Bonds to be expended in the construction of the first division of the road.

The proceeds of the ten million Bonds thus secured will build and equip the road.

In addition to this, the sum of \$853,300 has been subscribed by counties and individuals along the line, payable in cash; these subscriptions will be collected within the next three years, and can be appropriated to paying interest on bonds used in the construction of the first division: the completion of the first division will ensure the payment of interest from the receipts of the road.

THE LANDS.

The lands granted to the road have all been selected, and the selections approved by the department at Washington. The examination and classification was commenced last year, under the direction of Mr. O'Sullivan, but little progress had been made before his death. Since then, the as-

sistant in charge of that department has been engaged on other work.

An immediate organization of the land department is contemplated, and competent men will be selected to examine and classify the lands in each county. When thus examined and classified, they will be valued according to classification; that is, a minimum value will be fixed upon each class.

These classifications will embrace:—

1. First class mineral and coal lands, known to be very valuable from development of ores and coals.
2. Second class mineral lands, known to abound in mineral, but not yet fully explored.
3. First class agricultural lands near the line of road, town sites and lands near the towns.
4. First class agricultural lands, equally fertile, but further from the line of road.
5. Second class agricultural lands, and lands distant from 12 to 15 miles from the road.
6. Lands along and near the Gasconade, convenient to the road, and valuable for the timber.
7. Third class farming lands, being broken and inferior land, and land distant from the line of road. This class would not embrace more than 150,000 acres, worth from two dollars and fifty cents to five dollars per acre.

Under the law of 1852, giving the land to the railroad company, the right of pre-emption is granted to actual settlers, at \$2.50 per acre. From the returns made this will take 90,000 or 100,000 acres of the land. The law of December 10th, 1855, extends the right of pre-emption to certain settlers outside of the six miles, and within the fifteen miles, at the same price. This will cover about 40,000 acres more.

Agricultural lands between Lebanon and Springfield, and beyond Springfield, range in price from \$5 to \$25 per acre, and have been sold at the highest figure named, notwithstanding the great distance they are situated from market. The opening of the road must make all the land of that region equal in value to any part of the State.

A low valuation of these lands will swell the aggregate to over ten millions of dollars; and perhaps, no lands in the West will be more enhanced in value by the construction of a railroad than those of the South-west. At least one-half the land can be put down as choice agricultural lands, worth from \$8 to \$25 per acre.

The inferior agricultural lands are nearest St. Louis, and their proximity to market, will contribute greatly to give them an increased value.

The report upon the mineral lands, it is believed will astonish the most sanguine in showing their immense value. So far as the guaranteed Bonds are concerned, the value of the lands or road, when built, is of little consideration, as the assumption and guarantee of the State makes them perfectly secure as an investment.

THE STATE OF MISSOURI

contains an area of 67,380 square miles, being only 414 square miles less in extent than the four States of New York, New Jersey, Connecticut and Massachusetts combined. From the extent and uniform richness of its soil, it is susceptible of producing twice the amount of agricultural products of the four States named.

It is larger in extent than the six New England States. It has a front on the Mississippi river of five hundred miles. The Missouri river meanders through the State from West to East, over three hundred miles.

The agricultural productions of this State are equal to any in the West. The hemp, tobacco and wheat of Missouri have a reputation in every market for their superior qualities.

The State abounds in mineral as well as agricultural wealth.

The Iron Mountain is noted for the vast quantity and quality of its ores. It has been estimated that over two hundred million tons of ore, thrown up by volcanic action, now lie above the level of the valley in which it is situated. Thousands of tons can be picked up by hand as needed for use.

The Pilot Knob, near by, presents an equal

amount of ore in a more compact form, but easily procured by blasting. Lead, copper, zinc, and other metals, are found in different parts of the State. Coal of fine quality is abundant. Cannel coal is found in large quantities in the counties of Calaway, Cole, Cooper and Saline. Bituminous coal is found in various parts of the State in great abundance.

POPULATION OF MISSOURI.

In 1820,	66,586
1830,	140,455
1840,	283,702
1850,	682,043
In 1856, (estimated from reliable data)...	900,000

Of this population only about 10 per cent. are slaves, being a less ratio than any slave State in the Union, Delaware excepted.

THE STATE DEBT.

The debt of the State, on her own account, (being in part for the capital stock of the Bank of the State of Missouri, now worth a premium,) is \$602,000.

Bonds issued to the Railroads, for which the State holds a first lien on the roads on which the bonds are expended, \$8,200,000.

Bonds authorized by law to be issued to the different railroads, the issue of which will extend through the next five years, \$8,050,300.

PROVISION FOR STATE DEBT.

The act of December 10, 1855, requires all the railroads entitled to State bonds to set apart a sum each year, as a sinking fund, which will be sufficient to pay off the bonds as they mature. At the same session an act was passed providing for a State sinking fund, to guard against any delinquency of the companies. Out of this fund the Treasurer is to pay interest upon the State bonds or bonds guaranteed by the State, whenever necessary, to maintain the faith and credit of the State.

STATE REVENUES.

The rate of taxation for State purposes is one-twentieth of one per cent., and this is collected upon a very low valuation of property. A continued surplus in the treasury for the last six years has not made it necessary to scrutinize the assessments of property as made.

Total revenue of 1854, (last report of Auditor,) \$429,872.34.

Annual expenditure for ordinary purposes of Government, about \$97,000.

Twenty-five per cent. of the gross revenue is appropriated to support of common schools.

THE CITY OF ST. LOUIS.

The city of St. Louis is the great commercial metropolis of the Mississippi valley. A glance at the map will show the importance of it, central location upon the great river of the continent; and the statistics of its growth will show that its position has been fully appreciated by our enterprising people.

Population in 1830,	6,694
" 1840,	16,649
" 1850,	74,439
" 1856, (February),	121,867

The city is now rapidly improving; over three thousand houses will be built within the year 1856.

PACIFIC RAILROAD.

The Pacific Railroad proper, as located from St. Louis, via Jefferson city, thence through Monett, Cooper, Pettus and Johnson counties, and terminating at Kansas, in Jackson county, was commenced in August, 1851. The work between St. Louis and Jefferson city was very heavy, much of it rock excavation, including four long tunnels. The failure of contractors, the advance in the price of labor and materials, the visitations of cholera, for three seasons, along the line, and the want of means to meet the increased cost of the work, all tended to delay the completion of the road to a paying point.

The road was opened through from St. Louis to Jefferson city, about the first of March, 1856—a distance of 125 miles. Since that time trains have

run regularly between these points. The road is now in first-rate condition, and will, from the first of July, pay interest upon the cost of construction. The work is under contract, west of Jefferson city, and it is contemplated to have forty miles further completed by the first of June next; this will add greatly to the business of the road, and make it a paying stock.

The expenditures on the main Pacific road to June 1st, 1856, amount to seven million four hundred and twenty-five thousand dollars. Of this amount, three millions were derived from the capital stock paid in; the balance from the sale of State bonds.

There is yet due on subscriptions west of Jefferson city, and applicable to the construction of the main road, seven hundred and thirty-six thousand dollars.

The company own 127,000 acres of land appropriated to the construction of the main road. They have just issued ten-year bonds, secured by a mortgage upon this land, for six hundred thousand dollars, and expect to appropriate the proceeds of these bonds to the construction of the main road.

The company is entitled to a further loan of State bonds, to the amount of \$1,300,000, to aid in the construction of the main road. These resources will extend the road one hundred miles beyond Jefferson city and, and insure a profitable business for the road.

ROLLING STOCK.

The company have twenty-six first-class locomotives; 17 1st class passenger cars; 4 2d class passenger cars; 2 mail cars; 4 baggage cars; 172 freight cars; 47 gravel cars, and 40 iron and hand cars.

The company make their own cars, and have a commodious shop for repair of locomotives, and to do the work incident to the repair and running of the road.

NOTE—The different laws for the benefit of the Railroad have all been accepted by the company, in the form required, but it was not deemed necessary to delay this publication, to obtain copies from Jefferson city, as the issue of State bonds and guaranteed bonds by the State, under those laws, is evidence that the acceptance was on file. The main road and branch make a common stock.

The State required no bonus for transferring the grant of land to the railroad, and the road is exempt from taxation, "until the road is completed, opened, and in operation," and shall declare a dividend.

WM. M. MCPHERSON, President P. R. R.

New York, July 10, 1856.

Cape Cod Railway.

The annual meeting of the Shareholders was held on the 9th inst., and the following gentlemen were chosen directors for the ensuing year, viz: J. H. W. Page, Richard Borden, Benjamin Burgess, M. S. Lincoln, Alexander Baxter, Nathaniel S. Simps, and Matthew Starbuck. All the acts and doings of the directors for the past year, to secure the Nantucket travel, were endorsed by the shareholders.—The annual report presents the following facts:

The receipts of the Company from May 31, 1855, to May 31, 1856:—

From Passengers	\$88,178 98
" Freight	26,659 50
" Mails	6,650 00
" Express	2,000 04
" Rents	221 78
" Wharfage	79 80
	\$122,789 50

Expenses for same period

Net income	\$43,413 01
The net income from May 31, 1854, to May 31, 1855, was	56,789 51

Decrease of net income compared with 1854-55

Commercial Tonnage of the United States.

We give from official documents, the following tabular statement, showing the amount of enrolled and registered tonnage owned in the several States.

	1851.	1854.	1855.
Northern States.	1,041,014	1,415,031	1,464,221
New York	694,402	916,074	979,210
Massachusetts	536,315	686,100	806,605
Maine	284,378	381,827	397,767
Connecticut	116,179	129,318	137,180
New Jersey	88,895	105,047	121,019
California	58,435	102,257	92,262
Ohio	58,352	80,859	91,606
Michigan	41,774	56,849	69,489
Illinois	23,103	31,684	53,796
Rhode Island	38,060	45,911	51,039
New Hampshire	25,427	28,838	30,329
Wisconsin	2,946	14,217	15,622
Vermont	3,982	7,374	6,915
Indiana	2,952	3,698
Oregon Ter'y	1,063	1,192	1,192

Total, Northern States

States	3,014,260	3,986,430	4,321,951
Southern States.	1851.	1854.	1855.
Maryland	20,544	220,208	234,806
Louisiana	252,284	187,073	204,148
Virginia	68,799	84,840	91,788
South Carolina	35,187	42,115	60,935
Missouri	34,065	48,575	60,892
North Carolina	43,782	67,800	60,077
Alabama	27,327	33,599	36,274
Dist. of Columbia	22,908	35,982	34,580
Georgia	24,185	27,321	29,506
Kentucky	12,937	20,122	22,680
Delaware	11,880	18,554	19,186
Florida	9,374	14,398	14,833
Texas	4,912	9,698	8,801
Tennessee	3,587	7,621	8,403
Mississippi	1,404	1,363	2,475

Total So. States. 757,170 809,264 859,982

We also give the tonnage of the several leading ports.

Tonnage of various ports in the United States.

	1851.	1853.	1854.	1855.
New York.	931,193	1,149,133	1,262,798	1,298,234
Boston ..	342,936	450,492	495,879	546,268
Phila.	222,428	252,451	268,746	293,806
N. Orleans.	251,900	153,184	183,818	200,836
Balt.	160,511	158,478	170,835	183,108
Bath, Me.	103,795	129,466	154,501	175,258
N. Bedfo'd.	181,409	155,630	165,910	169,986
Waldob'ro.	103,593	103,423	122,735	148,896
Portland ..	97,571	104,350	123,672	137,317
Pittsburg ..	53,734	79,361	84,870	93,691
S. Fran'o.	58,063	97,699	93,519	87,842
Barnstable.	72,997	78,748	81,957	80,616
Buffalo	43,603	65,184	82,678	76,952
Belfast, Me.	44,835	56,422	55,899	70,762
Detroit....	40,319	43,756	52,456	65,068
St. Louis ..	34,065	45,441	48,575	60,692
Charleston.	31,910	42,653	38,102	56,419
Penobscot.	40,809	45,724	44,991	53,965
Cuyahoga.	36,070	43,491	45,483	51,078
Chicago ..	23,103	27,015	31,041	50,972

Brockville and Pembroke (Ca.) Railway.

We have much pleasure in informing our readers throughout these United Counties, that the Counties Council, which terminated its labors last Saturday, has decided, as far as it is concerned, that the Municipalities should go on with the construction of the road themselves. The Municipality of Brockville has already signified its desire to do so; and Elizabethtown which had postponed coming to a decision until it had heard what course Lanark and Renfrew had adopted, will immediately follow in their footsteps. A meeting of the Directors took place yesterday at Brockville, to take into consideration, with the committees appointed on behalf of the municipalities, the immediate prosecution of the work. If no unforeseen difficulty ensues, and we anticipate none, an immense amount of work can yet be

done this fall. A sufficient quantity of iron can be delivered before the close of navigation at Brookville and Smith's Falls, so that rails can be laid down very early next spring, and we have not the least doubt but the cars will be running to Perth and Smith's Falls or Carleton Place by July or August, 1857.

The Municipalities, by adopting this course, will have a road built in every way answering the purpose intended, for at least one-half the cost that Messrs. Sykes, DeBergue & Co., or Mr. Moore, were to receive. The three Municipalities have at their command debentures equal in amount to \$287,000, which amount it is correctly ascertained will complete the road to Arnprior and Perth. It is not, however, the intention of the parties interested to discontinue operations at Arnprior; on the contrary, arrangements can so be effected without again calling upon the Municipalities, to carry on the work, as originally intended, to Pembroke.—*Perth Standard*.

New York and Erie Railroad.

The following table shows the amount of earnings of this road during the nine months, from October 1st, till June 30th, 1855-'6, compared with its earnings during the same months in 1854-'5.

	1855-'6.	1854-'5.
October	\$603,139	\$541,429
November	535,616	491,492
December	589,969	454,431
January	402,818	427,336
February	362,719	340,751
March	455,256	507,090
April	613,669	506,597
May	617,664	475,127
June	490,765	396,837
Total	\$4,671,615	\$4,141,090
Increase in nine months	\$530,525	

Pittsburg and Connellsville Railroad Co.

The *Pittsburg Evening Chronicle* of June 28th, contains the annexed proceedings of a meeting of the Board of Directors of the Pittsburg and Connellsville Railway Company, held June 26th:—

Whereas, The City authorities of Baltimore have made it the duty of the Finance Commissioners of said city to superintend the disbursements of the proceeds of one million of dollars of bonds issued by that city in aid of the Pittsburg and Connellsville Railroad Company; and whereas, the said Commissioners of Finance, being unable to give their own attention to said disbursements, have suggested the plan of appointing as Executive officers of the company, gentlemen with whom their previous business and social connections have been intimate, in order that they may thus be relieved from personal supervision, and still comply with the requisitions of the ordinance; and whereas, for the purpose of co-operation with the Board of Directors of this company in carrying out the above views of the Commissioners of Finance of Baltimore, Oliver W. Barnes Esq., President, Chief Engineer and General Superintendent, has tendered his resignation of those offices, therefore,

Resolved, That this Board do now accept the above resignation of Oliver W. Barnes Esq., and whereas, this Board possesses full confidence in the ability and integrity of Oliver W. Barnes, and sincerely regret his retirement from the service of the company, prior to the completion of the great and important work in which he and they are engaged, be it

Resolved, That we consider it due to Mr. Barnes, to place upon the minutes of this Board of Directors our appreciation of his valuable services in the several capacities above stated, and our recognition of the industry, fidelity and ability with which he has discharged every duty of the various important trusts confided to him.

After the acceptance of Mr. Barnes' resignation, Benjamin H. Latrobe Esq., of Baltimore, was elected President of the company.

The new organization of the Board of Directors will therefore stand as follows:

Benjamin H. Latrobe, of Baltimore, President.
Oliver B. Barnes, Thomas Bakewell, Wm. J. Anderson, Samuel A. Long, Geo. Miltenberger, Joseph Pennock, of city of Pittsburgh, Pa.; Dan. R. Davidson, Connellsville, Fayette Co., Pa.; Andrew Stewart, Uniontown, Fayette Co., Pa.; Columbus O'Donnell, Chaucney Brooks, George W. Dobbin, of Baltimore, Md.

Union Railroad Depot at Troy.

On a recent visit to Troy, we had the pleasure of viewing one of the finest railroad depots in the United States, and if we except one in Russia, we believe the largest in the world. The construction of this spacious and commodious edifice was commenced in 1853, and completed in 1854. The length of the building is 400 feet, and the width of the part devoted to the "entrance and exit" of the engines and cars is 150 feet—the width of the passenger rooms on the west front is 40 feet, and the width of the portion on the east side (the location of the water-tank and turntable) is 50 feet, showing a total width of 240 feet, the whole covering about 100,000 square feet, or more than two acres of ground. The main building is covered by an arched tuss roof, (Howe's plan,) in one single span, covering 60,000 square feet, resting on the main wall, which is 27 feet in height. The roof is supported by arched ribs or trusses of wood, 3 feet 4 inches in depth, with horizontal or tie-rods of iron, extending from one end of the truss to the other. The trusses are placed 18 feet 10 inches apart. The roof at the centre has a rise of 28 feet above the top of the walls, making the height at the centre 55 feet above the tracks. On the top of the roof is a ventilator, 30 feet wide and 15 feet high, extending the entire length of the building, with windows and slates placed alternately on each side. The ends of the main building are constructed upon six large free-stone columns, (from the quarries of Connecticut) with elliptical arches sprung from one stone to another, and subdivided by cast iron columns, forming two gothic arches of each elliptical arch, making two openings for tracks, eight of which are now laid through the building; each opening at the ends of the depot is provided with substantial doors, and the whole lighted with thirty gas burners.

The passenger rooms on the west front or side are divided into four suites of rooms, each suite comprising a baggage room, gentlemen's sitting room, ladies' sitting room, and private parlor.—A ticket office, wash room and gentlemen's and ladies' water closets, (with the most approved self-acting water fixtures,) are also attached to each of the four different suites of rooms. Between each suite of rooms we have passages for carriages from the cars of the four different railroad companies at whose expense and for whose use the building was erected. The building has three towers. On the front and over the centre of the passenger rooms, is situated the main tower, 115 feet in height, so constructed as to admit of a clock and bell. At each end of the passenger rooms are towers, four stories in height, which are occupied by the several railroad companies for general offices. These rooms are spacious and well adapted to the purpose for which they are designed.

In the centre of the passenger rooms, for a distance of ninety feet, the building is three stories in height—the second and third stories being used for refreshment rooms, with entrances by two flights of stairs in the main hall, and by two flights of stairs and balcony (187 feet in length) on the inside of the depot. The whole building is lighted by gas and heated by steam, there being some 14,000 feet of gas and steam pipe used for that purpose.

On the front of the passenger department is a platform, over which is a projecting roof ten feet wide, supported by cast-iron brackets, so that carriages can drive under and receive and deliver passengers in storm or sunshine without exposure

to either. The building was erected at a cost of \$125,000, the ground cost \$105,000, being a total of \$230,000. The Union Railroad Company are also the proprietors of two miles of railroad through the city, which connects the four roads. That company is appropriately designated from the fact that the road and depot were built by four companies, viz: the Hudson River, the Boston and Troy, the New York Central, and the Rensselaer and Saratoga Railroad corporations. The building (with the exception of the roof) is of brick, in a style resembling or nearly approaching the Gothic. It was drawn by Mr. E. Bonnet, a distinguished French architect, under the direction of E. French, Esq., Chief, and G. S. Avery, Esq., Superintending Engineer. In this connection it is but just and proper to state that to the last named gentleman we are indebted for the "facts and figures" in the preceding account. We should also acknowledge our obligations to Mr. A. McCoy, the Superintendent of the Union Railroad Company, to whose politeness we are indebted for a thorough personal inspection of this model building. It is a remarkable fact that, notwithstanding the road crosses a great number of streets, (the entire width of that part of the city,) not an accident has happened to a single individual since the rails were laid, owing in a great measure, to the watchful energy of the Superintendent, (Mr. McCoy,) who is ever on the alert to detect any delinquencies on the part of the police stationed at the crossings. Indeed, the entire police arrangements at the depot are admirable. Runners, cab drivers, and hackmen, are not allowed to annoy passengers, or distract them by their officiousness, as is too frequently the case at railroad stations in our large cities. Several uniformed policemen are employed by the company whose duty it is to prevent such annoyance, and to impart information to the ignorant but inquiring traveller. We passed most of two days at the station, and it affords us great pleasure to remark that the policemen were courteous and patient in answering the hundred and one questions of the passengers constantly arriving in the several trains.—*Hunt's Merchants Mag.*

The Central Ohio Railroad.

The *Zanesville Daily Courier* thus notices the business and pecuniary prospects of this road:—

The present of this road gives earnest hopes for the future. Our citizens are beginning to have faith in the ultimate results of the plan adopted to relieve it from embarrassment, and believing this, are more inclined to give it a fair and impartial trial. This is as it should be; confidence will be restored in other quarters, and the enterprise will eventually prove profitable, and meet the expectations of its early friends.

We have for the month of June, the following gross earnings:

On Passengers	\$28,498 40
On Express	460 46
On Mails	2,252 25
On Freight	26,009 75

Total

This is against \$42,000 in the month of May, and \$45,000 in the month of April. Prior to that time the earnings scarcely ever exceeded \$35,000. It must be remembered, too, that this is not the busiest season of the year for the transportation either of freight or passengers, and this makes the present earnings still more gratifying to the friends of the road.

We are informed that the business of the road continues in good condition so far the present month, and in all probability the earnings will show a like favorable result.

A fair prospect is now spread out to the company, and with a proper connection with the Baltimore and Ohio railroad the earnings will meet the expectations of the most sanguine, to say nothing of the future proposed connection with the Pennsylvania Central, which will attract business from some of the northern routes.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Length of Road.	Capital paid in.	Debt.	Total cost of road & equip't.	Gross Earnings for last official year.	Net Earnings for do.	Dividend for do.	Price of Shares.
Atlantic & St. Lawrence	140	1,538,100	2,978,700	4,516,800	470,647	110,247	6	85
Androscog. & Kennebec	56	588,042	1,622,905	2,210,947	209,475	110,247	none	14
Kennebec & Portland	56	1,114,725	1,661,236	2,775,961	240,000	110,247	none	14
Port. & Sag. & Portland	51	1,367,000	110,237	1,477,237	270,214	112,491	6	90
Boston, Concord & Montreal	93	1,808,093	1,050,512	2,858,605	233,294	120,834	2	77
Cheshire	35	2,085,925	899,313	2,985,238	380,221	143,565	2	77
Concord	35	1,500,000	8,242	1,508,242	385,910	138,454	2	77
Concord & N. H.	82	2,768,400	none	2,768,400	301,633	138,299	2 1/2	42 1/2
Concord & Passumps. Riv.	61	1,048,146	787,608	1,835,754	162,687	55,173	none	4
Concord & Burlington	120	2,233,376	2,662,396	4,895,772	394,971	124,793	none	4
Vermont Central	117	1,500,000	3,550,238	5,050,238	820,119	214,793	none	4
Boston and Lowell	27	1,830,000	325,635	2,155,635	489,754	140,377	6	83 1/2
Boston and Maine	85	4,076,974	150,000	4,226,974	554,426	339,000	6	76
Boston and N.Y. Central	74	2,240,300	1,518,671	3,758,971	59,917	8,740	none	6 1/2
Boston and Providence	55	3,160,000	359,132	3,519,132	558,671	219,639	none	6 1/2
Boston and Worcester	68	4,500,000	655,428	5,155,428	1,008,004	404,461	6 1/2	88 1/2
Cape Cod	47	684,690	280,598	965,288	119,221	55,527	3	49 1/2
Connecticut River	52	1,691,110	278,241	1,969,351	286,593	103,787	5 1/2	47
Eastern, Mass.	60	2,683,400	2,947,737	5,631,137	647,281	305,998	4 1/2	41
Fitchburg	30	3,640,000	153,700	3,793,700	681,163	225,971	6 1/2	69
North Eastern	30	800,212	225,586	1,025,798	968,521	198,491	6 1/2	83
N. Bedford and Taunton	21	500,000	none	500,000	168,491	66,583	6 1/2	83
Old Colony and Fall River	81	3,015,100	292,650	3,307,750	3,362,949	295,738	6 1/2	83
Vermont and Mass.	77	2,232,541	1,032,670	3,265,211	298,726	87,313	7 1/2	7 1/2
Western, Mass.	155	6,150,000	6,966,420	13,116,420	1,868,673	633,013	7	87 1/2
Worcester and Nashua	46	1,141,000	205,505	1,346,505	311,430	75,780	2	40
Worcester and Worcester	43	1,510,020	338,461	1,848,481	311,430	138,067	7	70
Providence and N. Haven	72	2,356,000	939,000	3,295,000	730,012	352,799	10	21 1/2
Hartford and N. Haven	122	2,008,116	2,060,665	4,068,781	268,685	119,611	none	4
Housatonic	110	2,000,000	414,240	2,414,240	339,196	71,427	none	25
Naugatuck	67	1,031,800	524,244	1,556,044	220,459	93,768	none	25
N. York and N. Haven	62	3,000,000	2,376,803	5,376,803	884,906	338,877	none	25
N. Haven and N. London	50	738,258	735,165	1,473,423	88,007	30,319	none	36 1/2
N. Haven and W. Palmer	66	609,200	1,073,673	1,682,873	124,044	66,430	none	36 1/2
Norwich and Worcester	66	2,122,300	873,439	2,995,739	304,236	88,458	2 1/2	36 1/2
Norfolk Northern	32	439,005	1,625,098	2,064,103	117,716	9,904	none	36 1/2
Black River and Uda.	35	643,330	317,859	961,189	974,323	198,491	6 1/2	83
Buffalo, Conn. and N. Y.	100	1,487,874	1,501,183	2,989,057	172,476	66,333	none	83
Buffalo and N. Y. City	92	798,439	2,597,849	3,396,288	288,392	131,896	none	83
Buffalo and St. Line	99	1,300,000	1,040,000	2,340,000	479,750	355,763	10	10
Canadaigua and Elmira	47	434,111	922,393	1,356,504	174,089	69,606	none	10
Canadaigua & Niagara F.R.	91	1,315,000	2,279,854	3,594,854	1,812,087	608,946	none	82
Cayuga & Susquehanna	35	687,000	606,689	1,293,689	135,438	48,649	none	27
Hudson River	144	3,768,466	9,250,362	13,018,828	1,812,087	608,946	none	82
Long Island	95	1,875,148	668,949	2,544,097	301,793	116,462	none	27
New York Central	534	24,154,860	14,462,742	38,617,602	6,663,581	3,162,126	8	93
New York and Erie	404	10,023,958	25,126,669	35,150,627	3,439,431	1,488,993	6 1/2	92 1/2
New York and Harlem	138	6,717,100	4,069,769	10,786,869	1,535,677	234,126	none	17 1/2
Norfolk, N. Y.	118	1,633,022	4,406,874	6,039,896	5,470,714	1,265,754	none	2
Oswego and Syracuse	35	399,000	216,681	615,681	126,540	59,982	3 1/2	3 1/2
Potsdam and Watertown	29	467,200	294,189	761,389	149,683	74,983	none	10
Rensselaer & Saratoga	25	610,000	140,000	750,000	896,423	241,149	32	00
Saratoga and Whitehall	48	500,000	395,900	895,900	71,909	21,089	none	7
Saratoga & Binghamton	80	768,309	1,578,804	2,347,113	159,494	22,603	none	10
Troy and Boston	27	437,830	787,079	1,224,909	156,363	55,184	none	10
Watertown and Rome	97	1,370,378	700,979	2,071,357	404,374	172,474	3 1/2	120
Belvidere Delaware	64	1,000,000	1,619,000	2,619,000	161,855	75,634	none	120
Camden and Amboy	94	3,000,000	11,407,200	14,407,200	1,127,127	661,941	12	120
Camden and Atlantic	60	869,320	1,522,131	2,391,451	122,417	50,080	none	120
New Jersey Central	30	3,482,860	690,000	4,172,860	861,514	500,747	10	124 1/2
Morris and Essex	43	1,167,805	375,000	1,542,805	939,728	171,093	6	96 1/2
Albany Valley	44	1,387,867	342,564	1,730,431	229,341	96,267	6	96 1/2
Catskill, W. & Erie	63	1,700,000	1,940,000	3,640,000	219,233	62,450	none	96 1/2
Cumberland Valley	66	1,099,500	12,211	1,111,711	181,833	66,994	none	96 1/2
Del. Lack. & Western	109	3,051,622	3,894,702	6,946,324	628,911	269,283	6	96 1/2
East and North East	20	600,000	150,000	750,000	750,000	265,900	9	96 1/2
Philad. & Sunbury	38	800,000	1,200,000	2,000,000	99,535	53,335	none	96 1/2
Little Schuylkill	28	600,100	546,222	1,146,322	353,301	265,900	9	96 1/2
Northern Penn.	19	2,530,855	731,492	3,262,347	3,262,347	1,262,347	4	96 1/2
Pennsylvania	216	12,355,525	7,519,096	19,874,621	3,633,333	1,829,277	6	98
Phil. and Reading	96	11,030,309	7,438,800	18,469,109	3,321,793	2,593,916	10	91 1/2
Phil. W. & Baltimore	98	6,312,805	3,032,003	9,344,808	942,449	371,124	44 1/2	44 1/2
Phil. Germ. & Norristown	38	899,350	378,800	1,278,150	208,981	118,443	9	69 1/2
Pittsburg and Connelleville	147	1,339,661	111,493	1,451,154	309,630	253,600	none	64 1/2
Sunbury and Erie	280	2,093,740	282,888	2,376,628	3,711,468	1,601,090	3	64 1/2
Williamsport and Elmira	78	1,500,000	2,192,364	3,692,364	309,229	124,981	6	64 1/2
Baltimore and Ohio	382	13,105,600	9,670,491	22,776,091	3,711,468	1,601,090	3	64 1/2
Washington Branch	41	1,050,000	25,000	1,075,000	369,229	124,981	6	64 1/2
Norfolk Central, Md.	141	1,860,000	2,680,000	4,540,000	558,427	282,182	6	64 1/2
North Western Va.	164	413,683	4,316,073	4,729,756	123,605	111,363	none	64 1/2
Omaha and Alexandria	97	1,457,500	638,622	2,096,122	212,405	111,363	none	64 1/2
South Side	123	1,371,700	1,489,012	2,860,712	123,605	111,363	none	64 1/2
Pittsburg & St. Louis	32	1,221,277	290,000	1,511,277	379,366	172,391	none	64 1/2
Virginia Central	138	2,000,000	1,061,248	3,061,248	255,920	128,329	2 1/2	64 1/2
Virginia and Tennessee	149	2,500,000	2,969,780	5,469,780	316,309	144,662	none	64 1/2
Richmond and Danville	127	2,000,000	1,200,000	3,200,000	151,947	73,234	none	64 1/2
Richmond & Petersburg	22	768,100	266,048	1,034,148	252,712	120,212	7	64 1/2
Richm. Fred. & Potomac	130	1,000,000	730,506	1,730,506	263,874	128,681	4	64 1/2
Petersburg & Roanoke	63	769,000	168,502	937,502	263,874	128,681	4	64 1/2
North Carolina	228	4,000,000	4,285,000	8,285,000	1,008,200	680,350	7 1/2	64 1/2
Wilmington & Manchester	171	1,070,775	1,373,989	2,444,764	339,800	161,004	none	64 1/2
Raleigh and Gaston	97	973,300	120,673	1,093,973	173,923	105,392	2 1/2	64 1/2
Charlotte and S. Carol.	109	1,201,000	880,000	2,081,000	291,219	138,875	6	64 1/2
Greenville & Columbia	165	1,283,444	968,800	2,252,244	214,866	106,774	6	64 1/2
South Carolina	303	4,188,020	2,731,545	6,919,565	1,585,991	883,402	9	64 1/2
Atlanta and La Grange	87	719,842	225,000	944,842	261,076	161,193	7 1/2	64 1/2
Georgia	211	4,166,000	260,901	4,426,901	1,098,200	680,350	7 1/2	64 1/2
Georgia Central	191	3,833,140	none	3,833,140	1,280,570	684,774	9	64 1/2
Macon and Western	109	1,230,500	167,712	1,398,212	350,802	96,104	10	100
Montgomery & W. Point	116	1,274,600	684,816	1,959,416	249,128	112,834	8	100
Brunswick and Florida, Ga.	30	300,000	300,000	600,000	In progr.			
South Western	92	1,097,496	465,500	1,562,996	253,306	141,168	8	
Tennessee and Alabama	30	246,486	none	246,486	679,900	In progr.		
Tennessee and Mississ.	30	170,931	none	170,931	175,740	In progr.		
Memphis and Charleston	217	2,179,440	2,197,002	4,376,442	4,028,796	311,631	169,572	
Mobile and Ohio	153	2,565,555	1,802,921	4,368,476	199,932	109,236		
Miss. Central	188	642,534	none	642,534	628,503	In progr.		
N.O. Opelousas & G.W.	55	2,930,426	671,645	3,602,071	In progr.			
Vicksburg, Shreveport & Tex.	111	1,117,500	none	1,117,500	2,067,566	In progr.		
East Tennessee and Ga.	111	1,000,000	1,500,000	2,500,000	In progr.			
East Tennessee and Va.	16	625,425	938,593	1,564,018	1,033,781	In progr.		
Nash. and Chattanooga	161	2,319,330	1,407,081	3,726,411	316,090	112,177	none	
Covington & Lexington	98	1,302,804	2,235,939	3,538,743	264,973	138,694	13	
Lexington and Frankfort	29	430,055	158,099	588,154	93,263	43,635	6	
Lexington and Danville	69	694,444	62,734	757,178	In progr.			
Louisville and Frankfort	65	698,236	669,661	1,367,897	244,014	96,902	6	
Atlantic & Gt. Western	264	866,939	77,294	944,233	1,156,135	171,929	65,000	20
Bellevue and Ind.	118	1,881,635	2,025,925	3,907,560	298,293	140,823	none	80
Ind. Col. and Cin.	141	4,547,020	122,567	4,669,587	1,290,295	732,056	9	102
Cleveland and Toledo	200	2,67						

Railroad Bonds.

NAMES OF COMPANIES. (The following quotations are ex-interest.)	Amount of Loan.	Description of Bonds.	Rate Int.	Interest payable.	Where payable.	Due.	Offered.	Asked.
Alabama and Tennessee River	\$538,000	1st mortgage, convertible	7	1st Jan. 1st July	N.Y.	1872	80	82½
Buffalo and State Line	500,000	Do. convertible	7	1st April, October	"	1886	97½	97½
Bellefontaine and Indiana	600,000	Do. convertible	7	1st Jan'y, July	"	1886	90	90
Do. do.	200,000	Real estate, convertible	7	1st Jan'y, July	"	1883	88	88
Do. do.	200,000	Income, guar. Cl. Col. & Cin.	7	1st Feb'y, August	"	1889	82½	82½
Central Ohio	1,250,000	1st mort. conv. east, sec.	7	1st March, Sept.	"	1881-84	88	88
Do. do.	800,000	2d do. convertible	7	1st Jan'y, July	"	1886	91	91
Cincinnati, Hamilton, and Dayton	500,000	1st mortgage inconvertible	7	1st Jan'y, July	"	1886	88	88
Do. do.	465,000	2d do. do.	7	1st May, Novemb.	"	1888	82½	82½
Cincinnati and Marietta	2,500,000	1st mortgage, conv. till 1892	7	1st Jan'y, July	"	1882	85	85
Cincinnati, Wilmington, and Zanesville	1,800,000	Do. convertible	7	1st May, Novemb.	"	1886	91	91
Cleveland, Fairport, and Ashtabula	567,000	Do. inconvertible	7	1st Feb'y, August	"	1880	98	98
Cleveland and Pittsburgh	800,000	Do. convertible	7	1st Feb'y, August	"	1880	77½	82½
Do. do.	1,200,000	Do. on branches	7	1st March, Sept.	"	1883	87½	87½
Cleveland and Toledo	525,000	Do. inconvertible	7	1st Feb'y, August	"	1882-72	80	80
Chicago and Mississippi	800,000	Do. conv. till 1887	7	1st April, October	"	1882-72	80	80
Do. do.	1,200,000	Do. inconvertible	7	1st April, October	"	1882	75	75
Covington and Lexington	400,000	Do. do.	7	1st March, Sept.	"	1883	83	85
Do. do.	1,000,000	2d mortgage, convertible	7	1st April, October	"	1875	80	90½
Delaware, Lackawanna, and Western	1,500,000	1st mortgage, do.	7	1st Jan'y, July	"	1873	80	80
Fort Wayne and Chicago	1,250,000	Do. conv. till 1883	7	1st Jan'y, July	"	1883	94½	95½
Gaens and Chicago	2,000,000	Do. inconvertible	7	1st Feb'y, August	"	1875	88½	89
Do. do.	2,000,000	2d mortgage, do.	7	1st May, Novemb.	"	1888	85	88
Great Western (Illinois)	1,000,000	1st mortgage, do.	7	1st April, October	"	1888	85	85
Green Bay, Milwaukee, and Chicago	400,000	Do. convertible	7	1st 10 April, 10 Oct.	"	1888	75	75
Jeffersonville	300,000	Do. 2d sec. inconv.	7	1st April, October	"	1875	90	90
Indiana Central	800,000	Do. convertible	7	1st May, Novemb.	"	1886	80	80
Indianapolis and Bellefontaine	450,000	Do. do.	7	1st Jan'y, July	"	1880-81	85	85
Indianapolis & Cin'ti (for Lawb. & U. M.)	500,000	Do. conv. till 1887	7	1st March, Sept.	"	1886	85	85
La Crosse and Milwaukee	950,000	1st mort. 1st sec. conv. till 1894	8	1st May, Novemb.	"	1886	82½	85
Lake Erie, Wabash, and St. Louis	3,400,000	1st mortgage, conv. till 1889	7	1st Feb'y, August	"	1886	81	81
Little Miami	1,500,000	Do. inconvert.	6½	1st May, 2 Nov.	"	1883	101½	101½
Michigan Central	1,000,000	No mortgage, convertible	8	1st April, October	Bost.	1880	101½	102½
Do. do.	600,000	Do. do.	8	1st March, Sept.	"	1889	101½	102½
Milwaukee and Mississippi	600,000	1st mort. 1st sec. conv. till 1887	8	1st Jan'y, July	N.Y.	1882	96½	96½
Do. do.	650,000	Do. 2d do. 1888	8	1st April, October	"	1888	96½	96½
Do. do.	1,250,000	Do. 3d do. 1880	8	1st June, Decemb.	"	1877	89½	89½
New Albany and Salem	500,000	Do. 1st section	10	1st April, October	"	1885-82	95	95
Do. do.	2,325,000	Do. oth. sec. con. till 1888	8	1st May, Novemb.	"	1884-75	95	95
Northern Cross	1,200,000	1st mortgage, convertible	8	1st Jan'y, July	"	1873	90	90
Ohio and Indiana	1,000,000	Do. do.	7	1st Feb'y, August	"	1880-86	98	98
Ohio and Pennsylvania	1,750,000	Do. do.	7	1st Jan'y, July	"	1872	79½	80
Do. do.	2,000,000	Income, convertible	7	1st April, October	"	1872	97½	98
Pennsylvania (Central)	5,000,000	1st mortgage, conv. till 1880	6	1st Jan'y, July	N.Y.	1875	85	85
Racine and Mississippi	680,000	Do. conv. sink'g'd	8	1st Feb'y, August	"	1881	80	80
Scioto and Hooking Valley	300,000	Do. 1st sec. conv.	7	1st May, Novemb.	"	1886	98	100
Steubenville and Indiana	1,500,000	Do. convertible	7	1st Jan'y, July	"	1886	98	100
Terre Haute and Indianapolis	600,000	Do. do.	7	1st March, Sept.	"	1882-72	77	79
Terre Haute and Alton	1,000,000	Do. do.	8	1st Feb'y, August	"	1870	74	75
Do. do.	2,000,000	2d do. do.	8	1st Feb'y, August	"	1870	74	75

NAMES OF COMPANIES. (The following quotations include the accrued interest.)	Amount of Loan.	Description of Bonds.	Rate Int.	Interest payable.	Where payable.	Due.	Offered.	Asked.
Baltimore and Ohio	2,500,000	Mortgage	6	1st April, October	Balt.	1885	85½	85½
Do. do.	1,128,500	Do. do.	6	1st Jan'y, July	Balt.	1875	86½	86½
Chicago and Rock Island	2,000,000	1st mortgage, conv. till 1888	7	1st 10 Jan. 10 July	N.Y.	1870	95	95½
Erie Railroad	8,000,000	1st mortgage	7	1st May, Novemb.	"	1867	104	106½
Do. do.	4,000,000	2d mortgage, convertible	7	1st March, Sept.	"	1889	98	98
Do. do.	6,000,000	3d mortgage	7	1st March, Sept.	"	1883	97	97½
Do. do.	4,000,000	Not conv. Sink Fund, \$420,000	7	1st Feb'y, August	"	1875	97	97½
Do. do.	4,351,000	Convertible, Inscription	7	1st Feb'y, August	"	1871	90½	90½
Do. do.	5,500,000	Convertible	7	1st Jan'y, July	"	1882	91	91
Hudson River	4,000,000	1st mortgage, Inscription	7	1st Feb'y, August	"	1869-70	102	103
Do. do.	2,000,000	2d do. do.	7	1st 16 June, 16 Dec.	"	1880	89	89½
Do. do.	3,000,000	3d do. convertible	7	1st May, Novemb.	"	1870	69½	70
Illinois Central	17,000,000	Mortgage, inconvertible	7	1st April, October	"	1875	92½	93
Do. (Free Land)	3,000,000	M'ge 348,000 acre-priv. 7 shares	7	1st March, Sept.	"	1880	100	100
Michigan Southern	1,000,000	1st mortgage, inconvertible	7	1st May, Novemb.	"	1861-72	96	98
New York and Harlem	1,750,000	No mortgage, do.	7	1st June, Decemb.	"	1855-60	78	80
New York and New Haven	1,000,000	1st mortgage, do.	6	1st Jan'y, July	N.Y.	1873	92	94
New Haven and Hartford	1,000,000	Do. do.	7	1st Feb'y, August	"	1861	93	96
Northern Indiana	1,000,000	Do. do.	7	1st Feb'y, August	"	1868	89	91
Do. Goshen Branch	1,500,000	No mortgage, do.	6	1st May, Novemb.	"	1883	89½	89½
New York Central	3,287,000	No m'ge conv. from June 57-80	7	1st 15 June, 15 Dec.	"	1864	103½	102½
Do. do.	3,000,000	Convertible till 1886	7	1st Jan'y, July	"	1866	101	104
Panama, 1st issue	1,478,000	Do. till 1888	7	1st Jan'y, July	"	1866	101	104
Do. 2d do.	1,573,000	Mortgage, inconvertible	6	1st Jan'y, July	Phila.	1880	92	92
Reading, issued 1843	1,300,000	Do. convertible	6	1st Jan'y, July	"	1880	92	92
Do. do. 1844, '48, '49	1,300,000	Do. do.	6	1st Jan'y, July	"	1880	92	92
Do. do. 1849	3,469,000	Do. inconvertible	6	1st April, October	"	1870	84½	85½

CITY SECURITIES.	Int't payable.	Off'd.	Ask'd.
New York, 7 per ct. 1857	Feb'y, 100	101	
Do. 5 do. 1858-60	May, 95	96½	
Do. 5 do. 1870-75	August, 93½	95	
Do. 5 do. 1880	November, 94½	95	
Albany, 6 per ct. coup. 1871-81	Feb'y, August, 97	100	
Allegheny, 6 per ct. coup.	Jan'y, July, 97	98	
Baltimore, 6 per ct. coup.	Quarterly, 97	99	
Boston, 6 per ct. coup.	April, October, 97	99	
Brooklyn, 6 per ct. coup. Long	Jan'y, July, 100	101	
Cler'Fd, 7 per ct. cp. W.W. 1879	Do. do., 101	102	
Cincinnati, 6 per ct. coup.	Divers, 89½	90	
Chicago, 6 per ct. coup. 1873-77	Jan'y, July, 89½	90	
Do. 7 per ct. coup. 1880	Jan'y, July, 100	100½	
Detroit, 7 per ct. cp. W.W. 1873-78	Feb'y, August, 100	103	
Dubuque, 8 per ct. cp. Long	March, Sept., 101	105	
Jersey City, 6 per ct. cp. W.W. 1877	Jan'y, July, 91	93	
Louisville, 6 per ct. cp. 1880-83	Divers, 78½	79	
Memphis, 6 per ct. coup. 1882	Jan'y, July, 70	70	

Cincinnati Stock Sales.

By KIRK & OVERBER.
For the week ending July 16th, 1886.

BONDS.	Per ct.
Little Miami, 6 per ct. Mort.	80
Covington & Lexington, 2d Mort. 7 per ct.	80
Ohio & Mississippi, 2d Mort. 7 per ct.	80
Indianapolis & Cin., 2d Mort. 7 per ct.	80
Cin. Ham. and Dayton, 2d Mort. 7 per ct.	80
Hillaboro' and Cin., 7 per cent. 1st Mort.	80
Covington & Lexington, 10 per ct. Income	80
Indianapolis and Cincinnati Dividend	80
Columbus and Xenia Dividend	80
Cin. Hamilton and Dayton, Divid. Scrip. due 1887, stat. 100	80
Little Miami, Dividend Scrip. issued June, 1886	80

STOCKS.	Per ct.
Bellefontaine and Indiana, 30—Cin. Ham. and Dayton, 86	86
—Col. and Xenia, 82—Cincinnati and Chic., 4—Covington & Lexington, 18—Dayton & Western, 17—Eaton and Hamilton, 20—Indiana Central, 50—Indianapolis and Cincinnati, 60—Little Miami, 89—Mad River & Lake Erie, 15—Marietta and Cincinnati, 16—Ohio and Mississippi, 6½—Hillaboro' and Cincinnati, 16—Peru and Indianapolis, 10½—Cincinnati, Wilm. and Zanesville, 12	86

By HEWSON & HOLMES.
For the week ending July 16th, 1886.

BONDS.	Per ct.
\$5,000 Fayette Co. Ky., 6 per cent.	70 (Int.)
2,000 Cincinnati 6 per cent.	90
2,000 Little Miami, 6 per cent., 1st Mort.	81
1,000 Cin. and Chic., 5 per ct. Real Estate	80
4,000 Covington & Lex., 7 per ct. 2d Mortgage	84
1,240 Little Miami, Dividend Scrip.	80
2,000 Indiana Central, 10 per ct. Income	95
1,000 Cin. Ham. and Dayt, 7 per ct. 2d Mort.	82½
800 Columbus & Xenia, Dividend	88

Extract from De Coppet & Co.'s Money Circular for the European Steamer of the 23rd inst.

[TRANSLATED.]

NEW YORK, Tuesday, July 22, 1886.

To several days of activity in the Stock Market during the beginning of the week has succeeded a dullness not unusual at this season of the year. Prices have experienced oscillations upon most of the more active stocks, which have resulted generally in a decline. The aggregate transactions of the week were considerable, embracing as well some of the State Stocks, as the Bonds and Shares of the best accredited railways. Besides this, the Bonds of several of the Western roads which, for a long time, had remained entirely dormant, seem disposed to emerge from their protracted inaction. Money, although in rather better demand from the importing merchants, remains very easy to procure, the Banks appearing disposed to lend freely the balances from the interior, which are again on the increase with them.

State Stocks.—There were large transactions in Missouri 6s, at a decline of ½ to ¾; Indiana 6s have been freely done without alteration of price. City and County Bonds.—Prices are well maintained, but we have merely to mention some recent transactions in St. Louis 6s, Milwaukee 7s, and Albany 6s. To-day an auction sale of \$184,000 St. Louis 6s, from 81 to 75½ and interest, averaging 76 4-5th, and of \$10,000 St. Louis County 6s, at 75 and interest, rather reduced quotations.

Railroad Bonds.—Large transactions have taken place in Erie 7s, 1871, at steady prices, and in Illinois Central Construction at a decline of ¼ to ½. There has been a fair demand for New York Central 6s and 7s, at a trifling advance; the new 7s of this Company, redeemable in 1876, and to the redemption of which an annual sinking fund of 8 per cent. is provided, are now in the market. At private sale, transactions have taken place in Ohio and Pennsylvania Income, in Lake Erie, Wabash and St. Louis 1st mortgage, and in Cleveland and Pittsburg 1st mortgage on branches. They are quoted at an advance. Michigan Central 8s, 1869, have been done freely and are looking up.

Railroad Shares.—The activity which prevailed

during the earlier part of the week turned mostly on Erie, Reading, New York Central, Cleveland and Toledo, and Michigan Southern. The last named are quoted ex dividend. The decline on these has been general. Illinois Central, with very little doing, declined 2 per cent. Exchanges on Europe rather flat. Paris 5.16½-5.17½; London 109¼-110. DE COPPET & CO.

Extract from the Circular of Robt. Benson & Co.

The circular of Messrs. Robt. Benson & Co., received by the Persia, states that—

"In American Securities there has been much greater activity, and to-day, well known Railway Bonds and State Stocks are inquired for. Illinois Central R. R. Construction Bonds 7 per cents. have been sold at 82½, and Freeland at 88a88½-89. Pennsylvania 1st Mortgage Bonds at 91; 2d Mortgage Sterling Bonds 94½-95. New York Central 7 per cents. at 95½-96; Michigan Southern and Northern Indiana Sinking Fund Bonds at 80, and Erie Bonds of 1862 at 82. The transactions in State Stocks are chiefly purchases—United States 6 per cents. at 103, ex-coupon; South Carolina Bonds (Barings' 1868) at 99½; Pennsylvania 5 per cent. Bonds are quoted 80a82, and Maryland Sterling 98a99 ex-coupon."

Marie & Kan's Money Circular for the European Steamer of the 23d Inst.

[TRANSLATED EXTRACT.]

NEW YORK, Monday, July 22d, 1856.

Several weeks of great activity and buoyancy have been followed by one of reaction. The heavy exportation of specie to Europe, and the continued system of expansions by our Banks, have caused some fears that the present ease in money matters might be disturbed before long. The business in speculative stocks has not been very large throughout the week, and prices show a decline without exceptions; Investment stocks have been tolerably active, but prices have been more or less influenced by the general tone of the market. The orders for our stocks from Europe, by the last mail, have been less important than by the last two or three steamers. The principal orders having been for Michigan Central bonds, Illinois Central bonds, Cleveland and Pittsburg 2d mortgage, and Ohio and Pennsylvania Income bonds; there were also some purchases of other Western railroad bonds made for foreign account, but only in limited amounts. State Stocks.—The largest transactions have taken place in Virginias and Missouris, the former declining ½, the latter 1 per cent.; Indiana 5s sold also at a decline of ½; the new California loan of 1875 was again down at 70a69½. City and County Bonds.—Except the sale at auction of St. Louis City and County bonds, which was mentioned in a separate paragraph, nothing of importance has been done. Some Cincinnati 6s, Milwaukee 7s, and Chicago 6s sold at former prices. Railroad bonds have not been so active of late. Illinois Central bonds declined 1; Erie 1875 bonds 1; Erie 1871 bonds ½; Hudson River 3d mortgage ¼; Michigan Central bonds, 1869, at an advance of ½; the Cleveland and Pittsburg mortgage bonds and the branches at an advance of 2½ per cent., have been bought for Europe to some extent. Ohio and Pennsylvania Income bonds went up 8 per ct. Several lots of the La Crosse and Milwaukee Sinking Fund mortgage bonds having been taken for foreign account, we shall hereafter quote them regularly. Railroad Shares.—The transactions have been moderate, compared to the last fortnight, and prices are all lower. Erie sold as low as 61½, but recovered to 62½, which is still 1¼ per cent. less than our last quotation. New York Central declined ¼; Panama 1; Michigan South'n ¼; Michigan Central 1½; Illinois Central 2½; Cleveland and Toledo 1½; Cleveland and Pittsburg 1½; Galena and Chicago ¼; Milwaukee and Mississippi 1; Wisconsin and Lake Shore 1½ per cent. Money.—The demand for money has been a little more active, without creating any change

in rates. We quote loans on call 6a7 per cent.; first class paper, 7a8 per cent.; names less known 8a10. Exchanges.—Sterling is a fraction lower, 109¼-110. Paris and Continental exchanges remain without alteration.

MARIE & KANZ.

The Rising Fever of Speculation in England.

The fever of speculation now gradually commencing will be watched with anxiety by all who regard the permanent welfare of the country.—Every one can see that, with the influx of bullion, the demand for new investments will increase, that this demand will be met on all sides, and that the majority of the schemes introduced will call not merely for the surplus funds seeking employment at the moment, but will pledge the community to a continued outlay long after the tide may have turned. They can also recognize that the final result will be a crash such as was witnessed in 1825, 1836, and 1847, and which in this country may be looked for with absolute precision once every eleven years. The whole population will nevertheless go on, each man believing that he will pause in time, and that his neighbor is to be the person who must suffer. In such a state of affairs all warnings are useless, since there is no difference of opinion as to the end. The only service that can be rendered is to remind the public from time to time of their actual position, so that, if they increase their commitments to an extravagant extent, they may at least do so with a full knowledge of what they are undertaking. Thus far no danger has been incurred, but a retrospect of the enterprises of the past half year will show that the amounts already engaged to be furnished are considerable, and that when these shall have been doubled and trebled—as will, perhaps, be the case during the next six months—they will make an aggregate sufficient to absorb the disposable means of England for three or four years thereafter. Annexed is a list of companies introduced on the Stock Exchange since the 1st of January, 1856:

The Times enumerates forty-three new enterprises introduced since the commencement of the year, and adds:

"The aggregate capital apparently demanded for the above is £23,490,000—a total which would already seem alarming, but that it admits of several important deductions. The schemes from No. 1 to No. 22 inclusive, are alone those which involve outlay in foreign countries. They amount to £19,110,000, and as several of them, such as the Lombardo Venetian Railway, the Italian Junction Railway, the Bank of Switzerland, and the Societe des Clippers Francais have been subscribed jointly on the English and Continental Exchanges, the sum will be by that means diminished about £6,000,000. Another million or two may be estimated for the Bank capitals, which will probably not be required to be paid up in full. The actual amount, therefore, now promised to foreign countries may be set down within £11,000,000. This will not appear extremely heavy, when it is recollected that in 1853 a sum nearly as large was undertaken to be supplied to one concern alone—namely, the Grand Trunk Railway of Canada—but it is of sufficient magnitude to produce a sensible effect, and, if it were in the shape of an immediate loan, instead of a number of works which will be spread over a few years, it would not fail to exert, as our recent experience regarding the Turkish loan may illustrate, a very decided and inconvenient influence on the money market. It is to be borne in mind, moreover, that these claims do not represent all that are in progress, since Australian and Canadian and a variety of other debentures are quietly negotiated almost every week, and there is likewise an advance of £1,000,000 to be made to Sardinia.

"With regard to the companies in the above list numbered 23 to 44, whose operations are confined to home, there is little to call for remark. Their total is £4,880,000, and £1,000,000 of this is placed in the Imperial Hotel scheme, which is

either in abeyance or abandoned, while £2,100,000 is taken by the National Discount Company and several Banks, and is therefore in no way diverted from public use. It is a singular fact that while the law of limited liability has been assailed on the ground that it would prove a stimulus to the wildest speculation, it has thus far led only to a few moderate, and for the most part useful projects, which may serve in their degree the healthful purpose of finding employment for our energies within the limits of our own shores."—London Times, July 4.

American Railroad Journal.

Saturday, July 26, 1856.

Illinois Central Railroad.

The Illinois Central Railroad Company offer for sale \$900,000 of certificates, due 1st of January, 1858, bearing interest at 7 per cent., payable semi-annually. These certificates are issued in anticipation of the installments to be received on the thirty thousand shares of *privilege* stock held at the option of bondholders, and which option expires on the 1st of Jan'y, 1858. The amount to be raised from this option stock is pledged for the redemption of the certificates now issued, and they are receivable in payment for said stock.

These optional shares are at a premium, and are likely to advance rather than fall.

Toledo, Wabash and Western Railroad.

The proposed consolidation of the Great Western; the Toledo, Illinois and Lake Erie; and the Wabash and St. Louis railroads, has been accomplished by the votes of the stockholders of the several companies.

The Locomotive.

No. 5.

By THEODORE KRAUSCH, Civil and Mechanical Engineer.

Locomotive boilers as at present built, are capable of resisting a pressure equal to 70,000 tons; in many cases exceeding this amount. This power acts in two directions,—longitudinally and vertically. To ascertain the amount of pressure in the former direction, we multiply the area of the tube sheets (assuming them to be equal to a cross section of the boiler,) by the units of pressure acting on them. For example: If the diameter of the cylindrical part be 48 inches, the sum of the units of the surface of one cross section is equal 1809.5. Assuming the pressure upon an unit of space to be equal to 200 lbs., the total pressure is 200×1809.5=361,900 lbs. upon the cross section. This we have to multiply by two, which gives 723,800 lbs. as the whole pressure acting longitudinally.

To find the pressure acting against the periphery of the boiler, take the original figure of a circle, the polygon, the length of one side of which is equal to one inch. Multiply the number of sides by the length of the cylindrical part, and this product by the pressure on the square inch. The result will give the sum of the pressure acting on the periphery. The diameter of the boiler before mentioned, being 48 inches, and its circumference 150.7 inches, the latter is equal to a polygon of 151 sides,—150 of one inch each, and one of .7 inches. The length of the cylindrical part being 11 feet, is equal 132 inches. The steam pressure, per square inch, being 200 lbs., the pressure acting on each side is 1×132×200=26,400 lbs. The pressure, therefore, acting upon

the cylindrical part, is the sum of the pressures on all the side surfaces of the polygon.

In practice a shorter calculation is used—multiply the periphery of the cylindrical part of the boiler by its length, and the product by the pressure per square inch. Thus

$150.7 \times 132 \times 200 = 3,978,480$ lbs. the force exerted.

The fire-box, the form of which is generally a rectangle, is inclosed in the boiler—its walls standing from $2\frac{1}{2}$ in. to 3 in. from the boiler sheets, and parallel to them. This intervening space allows the fire-box to be surrounded by water.

The advantage of this construction is the saving of heat and room. Stay-bolts, placed about six inches apart, (making a number of squares), are riveted to the exterior boiler sheets, giving the necessary strength to the fire-box. Each one of these stay-bolts is capable of resisting a pressure of about 15 tons, and, if the steam pressure amounts to 200 lbs. per square inch, a square (produced by the position of the bolts) resists a pressure of $200 \times 6 \times 6 = 7200$ lbs. Each bolt has to resist such a pressure. The proportion between the capability of resistance of the stay-bolts and the pressure acting upon them, is as $4\frac{1}{2} : 1$. It is also to be mentioned, that the flat surfaces above the tubes belong to the weakest parts of the boiler, and must be specially secured by stay-bolts.

Suppose, now, a boiler has been built according to all the foregoing rules. Is an engineer justified in recommending it? No! The boiler must first be proved able to resist a much higher pressure than that to which it is ordinarily to be subjected. The same experiment will show the quality of the work and the materials used.

Without such trial and result, no engineer is justified in recommending a boiler as perfect. [Some builders do not prove their boilers by hydraulic pressure, but by steam, the consequence of which we sometimes have to deplore]. Some governments require all boilers to be proved by hydraulic pressure before a commission of engineers; a very necessary regulation, and one which should be adopted in our country.

Carelessness, or superficial education is the reason that boilers, of different diameters, are made of the same thickness and quality of iron. Every practical man knows that the iron should increase in proportion to the diameter of the boiler; or, more plainly, a boiler of 4 ft. diameter requires iron just twice as thick as one of 2 ft. diameter,—of course under equal pressure.

I lately had occasion to find the thickness of iron in a boiler of $47\frac{1}{2}$ in. diameter and 13 feet long; and in another, 44 in. diameter, and only 11 ft. 6 in. long (made by the same builder). Both were of the same thickness.

When steam is worked at 200 lbs. pressure, the cylindrical part of the former boiler has to resist a force of about 420 tons greater than the latter.

No great improvements relating to the system of the boiler have been lately made, with the exception that the fire-box surface has been increased by extending it about 30 inches into the cylindrical part of the boiler; thus increasing the direct heating surface equally. The increase is about 25 square feet. For the purpose of strengthening boilers, and especially to secure them against sudden and unforeseen pressure, Mr. Fairbairn re-

commends, instead of stay bolts, angle iron fastened on the end pieces.

Lately, the mischief arising from the use of thimbles, in regard to steam production, (diminishing the tube openings, and consequently reducing the draft through them,) has been removed, by extending the iron tubes about 3-16 of an inch beyond the tube sheets, and calking the iron.

Freehold and Jamesburg Agricultural Railroad.

The earnings of this road for the year ending May 31, last, were as follows:

Months.	Passengers.	Freight.	Total.
June.....	\$991.58	\$1,216.36	\$2,207.94
July.....	1,596.48	1,157.87	2,754.35
August....	1,851.68	1,626.48	3,478.16
September..	1,449.42	1,891.33	3,340.75
October....	1,007.73	1,729.62	2,727.35
November..	986.11	1,463.04	2,449.15
December..	999.36	1,338.04	2,337.40
January....	838.20	1,053.47	1,921.24
February...	634.45	1,358.29	1,992.74
March.....	793.94	1,813.59	2,618.85
April.....	976.38	2,278.20	3,249.58
May.....	959.77	1,876.10	2,835.87

	\$13,085.10	\$18,797.39	\$31,923.38
For carrying U. S. mail			40.89
			\$31,923.38

We copy the following statement from the company's books, showing expenditures to the present time.

CURRENT EXPENSES.	
Station expenses.....	\$3,959.34
Car expenses.....	1,816.35
Motive power.....	7,915.90
Salaries	1,000.00
Office expenses	232.50
Car repairs.....	638.69
Contingent expenses.....	659.34
Repairing track.....	1,664.16
Telegraph expenses.....	40.06
Repairs to locomotives.....	364.29
Damages.....	172.52

	\$18,458.15
Net earnings.....	\$13,465.23
Total cost of road and equipment.....	\$219,062.78
Current expenses.....	45,444.90
Interest	6,208.40
Amount in hands of the Treasurer...	5,066.17

\$275,782.20

The total receipts have been as follows:	
Installments on Capital Stock	\$130,341.52
Bonds sold.....	70,000.00
Gross earnings up to July 1, 1854....	10,082.17
Passenger earnings since July 1, '54..	27,394.44
Freight	37,023.18
Mail	40.89

	\$275,782.20
Net earnings previous July 1, 1854....	\$5,776.91
" for 11 mos. end'g May 31, '55	10,753.64
" for year ending May 31, '56.	13,465.23

Total net earnings.....	\$29,995.78
Interest paid	\$6,208.40
Paid on account of capital.....	18,721.21
Balance in hands of Treasurer.....	5,066.17

\$29,995.78

East Tennessee and Virginia, and Virginia and Tennessee Railroads.

The cars on the East Tennessee and Virginia railroad have reached Morristown, forty-four miles above Knoxville. The cars on the Virginia and Tennessee road are now running to Emory and Henry College, ten miles east of Abingdon, leaving a distance between the termini of the two roads, of about 110 miles.

INTERESTING TO RAILROAD MEN.

A DIAGRAM has recently been published by G. H. Hays, Esq., Civ. Engineer, of the practical organization of the New York and Erie Railroad. It shows in detail its entire physique in every department of the road. Such information in regard to one of the greatest railroads in the world must be deeply interesting to all connected with the management of such concerns. The impressions are on fine paper 31x45 inches. Price \$1 for thick or map paper and \$1.75 mounted on rollers. Those on map paper can be sent by mail.

Address JAMES W. HILTON,
Jersey City, N. J.
July 24th, 1856.

The Late Disaster on the North Pennsylvania Railroad.

The recent terrible accident on this road has excited almost universal discussion as to the manner by which such disasters can be prevented. In the present case it would seem that by ordinary care on the part of the conductors the collision could have been avoided. But all experience shows that from incapacity, unfaithfulness, misconception of orders, inattention or mistake, conductors or engineers are never implicitly to be relied upon. Additional precautions against accident must be sought for, and used.

Of these, a double track appears the most obvious. But beside involving an outlay which few companies can afford, there is another much more effectual—a magnetic telegraph working between stations. With such, it can always be known whether or not the track be clear. The Erie railroad is a good illustration of what may be accomplished by a telegraphic line. No road, save one, in the United States has a business at all to be compared with it. Yet, it must be called a single track road. Nearly the whole of the Delaware Division has only a single track, for the reason that a double track upon it is hardly possible from the nature of the ground. Nearly all the traffic of the road passes over this division, yet we hear of no accidents upon it,—nor in fact upon the road. Its singular exemption from accident, and the ease and order with which its immense traffic is carried on, is due to its telegraphic line, by which every station master, and the Superintendent may know the exact position of each train moving upon the road.—We are assured by Mr. McCallum, that not only would it be impossible to work the road without a telegraphic line, but that with it, the capacity of the road, without any additions to its double track, is almost unlimited. The Company, we believe, do not propose to lay down an additional track on this division, as they find no difficulty in conveniently passing over it their immense traffic.

A line of telegraph can be constructed, maintained and worked, at very low cost. With it, accidents from collisions may be absolutely avoided. No road should be without one. No company should complain for being censured, or for being mulcted in heavy damages, if they neglect such a cheap and effectual remedy for the most disastrous kind of accidents.

Memphis, Clarksville, and Louisville Railroad.

Ground was broken on this road at the town of Clarksville, on Monday, June 23.

New York and Erie Railroad.

The work of tunnelling Bergen Hill for the Erie Railroad Company is rapidly progressing, and will be carried to an early completion. The east approach has been cut in within forty or fifty feet of the end of the tunnel, and most of the shafts are nearly half way down. The western approach is being pushed on very rapidly.

Railroad Bridges—New Construction.

In the South and West, great difficulty is often found in getting secure foundations for railroad bridges over the rivers and cross gullies which exist. In sunny regions also, wood, of a durable kind, is very scarce, and stone not to be had at all. The Trenton Locomotive and Machine Manufacturing Company, through their President, AARON H. VANCELEVE Esq., have lately taken a step in the right direction to surmount those difficulties. They have introduced the screw-pile for piers, and thus are able to obtain a secure foundation in any formation of earth, and erect thereupon iron piers, most durable in character, of a graceful appearance, and presenting the least possible obstruction to the water-way of the stream. We copy, from the *Southern Argus*, the following notice of the piers of a bridge which the Company have just completed for the Norfolk and Petersburg Railroad Company:—

SOUTH BRANCH BRIDGE.—The contractor, Mr. A. H. Vanceleve, having completed the construction of the iron piers in this bridge, has surrendered the work to the railroad company. The six piers have been constructed in a masterly manner, and they now stand out in the stream a lasting monument of genius and skill.

It is the only work of the sort in the country, or indeed, in the world. The screw-pile has before this been employed in the construction of light houses in England and America; but never previously in building bridges across streams. The experiment on the South Branch will evidently prove eminently successful.—The piers are light, airy, graceful looking structures—and at the same time, all tests show them to be as firm as adamant.

One of the most striking features in the structure will be accurate adjustment. The alignment of the piles and braces has the appearance of exact mathematical arrangement. It is a curiosity to stand on the shore, and sight the different portions of the work all the way across the river. The diagonal braces when viewed in range, appear like a single rod; and the tall wrought iron piles (six inches in diameter) when sighted together look like a single pile.

It is needless to say, that such results give entire satisfaction to all who are interested in our railroad. We regard this iron bridge as the pioneer of hundreds of similar structures throughout the land.

Railroad Earnings.

For the nine months of the railroad year, the following is the comparison:

N. Y. CENTRAL TRAFFIC.		
	1855-6.	vs. 1854-5.
October.....	\$736,421	\$649,420
November.....	874,941	567,227
December.....	668,958	482,851
January.....	461,807	405,125
February.....	378,984	316,274
March.....	518,812	538,257
April.....	709,963	654,269
May.....	696,918	633,381
June.....	654,842	621,436

Total.....\$5,501,641 \$4,718,240
Increase this year.....\$783,401

The receipts of the Ohio and Pennsylvania railroad for the month of June exhibit a healthy increase:

Passenger receipts for June.....	\$57,678.95
Freight receipts for June.....	24,422.91
Total.....	\$82,101.86
Total receipts for June, 1855.....	78,438.68
Increase.....	\$3,663.18

The annual report of the New Albany and Salem railroad has been published. It notices the issue last December of \$500,000 of income bonds, with the proceeds of which it is thought the road may be put in complete repair. The whole line is now laid with heavy T rail, save about six miles of flat iron, which will soon be removed. During the last year \$386,000 has been expended in improvements.

The receipts for the year ending June, 1856, have been.....\$730,407.18
The receipts for the year ending June 30, 1855, were.....645,827.57

Increase, about 12 per cent.....\$84,579.57
Total receipts for the year.....730,407.18
Expenses.....340,949.08

Net.....\$389,458.10
Less interest on bonds, &c.....351,430.68

Net, after paying interest and expenses.....\$38,027.52

The Pennsylvania railroad receipts for the month of June were as follows:

Freight receipts.....\$221,294.04
Passenger receipts.....122,997.51

Total for June, 1856.....\$344,291.55
Receipts for June, 1855.....302,176.79

Increase.....\$42,114.76
Receipts from Jan'y 1, 1856, to July 1, 1856.....\$2,505,587.16
Same period last year.....1,850,462.87

Increase.....\$675,124.79

The earnings of the Indianapolis and Cincinnati railroad for the month of June were:

June, 1856.....\$37,009.18
June, 1855.....28,375.25

Increase.....\$8,633.83

We annex a statement of the aggregate business of the Illinois Central railroad company for the six months ending June 30, showing an increase of \$423,797, nearly 80 per cent. on the same months of last year, and an estimate of the year's business at the same rate of increase:

COMPARATIVE STATEMENT of Earnings for the first six months of 1855 and 1856.

	1855.	1856.	Increase.
January..	\$57,088.10	\$135,440.83	\$78,352.73
February..	59,324.20	119,000.00	59,675.80
March....	92,622.55	137,000.00	44,377.45
April....	113,444.11	190,820.89	76,876.29
May....	121,434.16	214,643.24	93,209.08
June....	123,421.26	194,727.32	71,306.06

Total.....\$567,334.88 \$991,181.78 \$423,797.49

Increase equal to 75 per cent.

Gross earnings for first 6 mos. of 1855.....\$567,334.83
" last ".....964,784.43

Total.....\$1,532,118.81

Gross earnings for first 6 mos. of 1855.....\$991,181.78
" last ".....

Increase in the same ratio as above.....1,685,476.05

Total.....\$2,676,607.83

Iowa.

The Legislature of this State is in session for the purpose of acting upon the recent grants of land made by the State Government to aid in the construction of four railroads extending across the State from the Mississippi to the Missouri Rivers. The following is an extract from the Governor's Message calling the Legislature together:

"On the 10th of May last, all the lands lying within the probable limits of the grant, were withdrawn from market, and there is now an entire suspension of business in all of the United States

Land Offices in the State, except in those at Des Moines and Fort Dodge. The interest of the State require that the lands not embraced within the grant should be opened to purchase and settlement at as early a day as practicable. Under the construction of the Commissioner of the General Land Office, the title of the State does not rest in the alternate sections until the several roads have been surveyed and maps of their location properly certified and returned to his office. He has therefore urged upon me the necessity that the State take immediate measures to secure the lands granted by an early compliance with the provisions of the Act of Congress, and with the instructions of his department.

"Hence, I have convened you, gentlemen, in special session, that you may determine—

"1st, Whether or not the State will accept the grant made under the act of the 15th of May last; and if so,

"2d, Whether the lands granted shall be transferred to any specific railroad companies, and if so, to what companies they shall be transferred; and

"3d, Upon what terms shall the transfer be made."

Maysville and Lexington Railroad.

The Court of Appeals of Kentucky have confirmed the decision of the lower court in the case of the Maysville and Lexington railroad company; consequently the sale of the road under the foreclosure of the bondholders stands good.

Railroad Accommodations at Toledo.

Those who are familiar with Toledo and its environs need not be told that the island known as the Middle Ground, on which the railroad is now making such splendid erections, was formerly a shoal on the Maumee river, prolific in water vegetation, and not supposed to be greatly beneficial to the health of the city. It was sometimes called Baldwin's Island, though it was not, in fact, an island, as it was covered with water and not surrounded by it. But this sunken ground or shoal, under the magic touch of Jarvis, has been converted to the purposes of commerce in a way which must make our city famous abroad, as having the most complete railroad arrangements in the whole country.

A railroad track through a city is always a nuisance. Let it be in a corner ever so dark; or on the bank of a river; or even in a cut or a tunnel, it is still within the range of carts, drays, children, &c., and must be the scene of frequent and fatal accidents. It is, therefore, common for a railroad terminus to be quite on the suburbs of a city, at a long and very inconvenient distance from the business centre, subjecting passengers to the additional expense of carriage hire, and to much anxiety by reason of a dependence on hackmen and omnibus drivers, who have generally a far higher regard for filling their pockets than for consulting the convenience of travelers.

But the appropriation of the Middle Ground to railroad purposes, has obviated every difficulty of this kind. It was purchased by the Southern Chicago line, some years ago, and has been filled in and made available at a very heavy expense. It now makes a long narrow island, containing some twenty-five acres, stretching through the river longitudinally, and separating all the operations of the road from the main shore, while it has an easy communication with that shore by means of a swing bridge, which completely commands the right of way. The tracks of the various roads all enter the island at its upper extremity, and have their termination in the great depot at its lower end, and within a stone's throw of the very heart of the city. No arrangement could be finer or better contrived for the convenience of the traveling public.

But the interests also required that the Lake and railroad commerce, already immense and rapidly increasing, should be combined so as to give

the greatest possible facility to the business of transportation. Some six or seven hundred miles of canal, draining the products of the richest valleys in the West, have their terminus at Toledo; and six or seven different railroads, from the North, the South, the East, and the West, culminate here with the products gathered from a circuit of a thousand miles. Commerce, therefore, demands an easy transition from the car to the boat, and from the boat to the car.

To answer this demand the Middle Ground has been skirted with immense docks and studded with immense store houses. The dockage room already extends two thousand feet and can be stretched three or four times that distance, if circumstances require it. About a thousand feet is also occupied with permanent storehouses, including a substantial brick emigrant house and other conveniences. There are also two immense grain houses, built with all the modern improvements, and a large steam engine by which their lofts are filled and emptied. These erections are of the most substantial kind and so arranged that the work of loading and unloading can be performed with the least possible outlay of manual strength.

The Freight Depot which, as we have said, is about a thousand feet in length, stretches along the edge of the dock, and the cars come in under shelter and unload on one side, while the boat, a few feet distant, lies at the dock, ready to swallow up the products on the other side.

The Passenger Depot is on the city side of the Island, and though very large, will probably be lengthened two or three hundred feet before many years. It is now 480 feet long and 160 broad. It is divided into two parts, the trains of the east roads taking one side and the trains of the western roads the other side.

The passage way from one side of this depot to the other is through the public hall of the Island House where the ticket offices are located. This hall is on a new plan and embraces an idea which will be largely copied. The lower rooms of the Island House are handsomely fitted up for the convenience of passengers and answer the double purpose of sitting rooms for gentlemen and ladies who wait for the cars, and of common parlors for those who occupy the house. The office of the clerk is on the floor, and the various rooms are always under the supervision of watchful eyes, so that they have all the neatness and good order of a hotel drawing room. The sitting room for gentlemen is on one side of the hall and the ladies' parlor on the other; and there is besides a barber's shop, a baggage room, and any quantity of wash bowls with living fountains of water pouring into them, so that the traveler can enjoy the luxury of a wash without much trouble to any body. All these conveniences are public and at the service of the traveler.

On the floor above is the great dining hall which we should think, will seat two or three hundred persons at table. It is kept by Mr. R. B. Angier, late of Cleveland, who seems to understand his business and provides his table liberally with good things to eat and with polite and attentive waiters who know how to administer to the wants of hungry travelers. Above the dining room are the sleeping rooms which are sufficiently large and comfortably furnished.

The hotel is a wonderful convenience to the traveller. If he is obliged to wait a few hours, a night, or a day, it furnishes him with a comfortable home, without going half a mile in a hack to look up a public house and to be sheared by two or three classes of sharpers. He can have his baggage stowed or sent up to his room and stay the time required, and be on hand at the sound of the whistle to take the desired train.

But even this is not all. Though the Middle Ground belongs to the Southern road, an arrangement has been made with all the other roads by which the erections are used in common under certain regulations, so that all the cars that come to our city come in on the Island tracks and stop at the same station. There is no going half a mile or a mile, in a hack, to another depot, or running

off after intelligence to a distant quarter of the city. The Lake Steamers start from the Middle Ground; the cars east, west, north and south start from the same depot on the Middle Ground; and the Middle Ground is just about the middle of creation, from which a man can put out in any conceivable direction, and take either of the four winds of heaven, for the uttermost parts of the earth.

New York Central Railroad.

The following comparative statement of receipts from passengers and freight during the months of May, 1855 and 1856, speaks well for the high character of the management of this truly imperial work, and the great resources of its line of route:—

1856.....	\$696,918 88
1855.....	638,381 69

Increase.....\$65,531 67

Extension of the Southwestern Railroad.

At a special meeting of the Board of Directors of the Southwestern Railroad Company—present, R. R. Cuyler, President, Wm. A. Black, John W. Anderson, Wm. S. Holt, T. M. Furlow, Robert A. Smith, Directors—the following resolutions were read and unanimously passed:—

Resolved, That the President be, and is hereby, requested and instructed to cause a survey to be made, forthwith, for the extension of the railroad of this company from Americus to Cuthbert, Randolph County, and a survey, also, from Sumter City to Cuthbert.

Resolved, That if a satisfactory arrangement can be made for the transfer by the Georgia and Florida Railroad Company of their road from Americus to Sumter City to this company, so as to make the same part and parcel of the Southwestern Railroad, then the extension will be made from Sumter City to Cuthbert—otherwise, from Americus to Cuthbert.

Resolved, That so soon as the survey and location can be made, twenty miles of the extension be placed under contract, to be paid—one half in cash and one-half in the stock of the Southwestern Railroad Company—such stock to come in on the same terms with the now existing stock, so soon as the said twenty miles of extension shall be opened for transportation and travel.

Resolved, That this company, by the preceding undertaking, contributing at least three hundred thousand dollars towards the further development of Southwestern Georgia, by actually building, of itself, unaided by the people, their road to within a distance of twenty miles from Cuthbert and forty from Eufaula, and with less than forty from Fort Gaines—feels that the people of all these places and of the country tributary to them, respectively should unite themselves to the Southwestern railroad, and, through that road connect and identify themselves with Macon and Savannah—with the Seat of Government; the mountain country of Georgia and the general railroad system of the Union.

Resolved, That the preceding resolutions be communicated by the President to the meeting which has been called to be held at Cuthbert on the approaching anniversary of American Independence.

True extract from the minutes.

JNO. T. BOISEUILLET, Sec'y.

This action of the Southwestern Company, it strikes us, has a most important bearing upon the system of Internal Improvement in the lower half of the State of Georgia. Whilst the Brunswick and Florida Railroad Company and the Savannah, Albany and Gulf Company have respectively, been endeavoring of late, to embark the people of Eufaula, of Cuthbert and Fort Gaines in the wild scheme of building from the Chattahoochee through Albany to Brunswick or Savannah—a scheme manifestly against the interest of the Southwestern company, and whilst no specific aid has been rendered by the seaboard to carry out the scheme—the Southwestern company has come out with the means and the determination to see

their road extended to Cuthbert. This movement we think most important for these reasons:—It determines the future policy of the Southwestern Company. It prompts Eufaula and Fort Gaines to instant movement towards Cuthbert. It is calculated to preserve the symmetry and usefulness of the railroad system of the State. It cuts off the hope of Brunswick from the plan of injuring the Southwestern company. It gives security and permanency to Southwestern Railroad stock, in which this city and its people are interested to the extent of three-quarters of a million of dollars. It is calculated to extend the business and increase the wealth of Macon. It hurts no existing interest, but benefits all. It will fix Macon as the travelling centre of the State. It will tend to increase the revenues of the Central Road, in which some three millions of Savannah capital are embarked. Finally, it will give quiet and well grounded hope and eventual success to those portions of Georgia and Alabama just now so much disturbed and perplexed on the subject of their connection with the sea. We hail the movement with joy and satisfaction.—*Sav. Rep.*

The Florida Railroad.

A gentleman connected with the operations of the Florida R. R. has given us some interesting details respecting its progress and prospects. As may be recollected, it connects Fernandina, on the Atlantic, with Cedar Keys, in the Gulf of Mexico, a distance of 140 miles. The road was only commenced on the 1st of October last, and there is already thirty miles of it graded and ready for the iron, and 1½ miles of trestle bridging, and the only draw-bridge on the line of the road completed. Such rapid progress is highly creditable to the contractors, commencing, as they did, at an isolated point, having to collect from remote sources laborers, tools, provisions, and materials of every description.

One thousand tons of iron for this road have been shipped from New York to Fernandina. Four thousand tons of iron have recently been purchased in England for the road, fifteen hundred of which have been already shipped for Fernandina, and the balance will be shipped during this month. These purchases will iron fifty miles of the road, and it is the intention of the Company to have it all laid down by the 1st of Feb'y next, at farthest, so as to have fifty miles of the road opened for business at that time. A locomotive and cars will be shipped from Philadelphia for Fernandina during the present month, and will aid greatly in facilitating the construction of the road. About three hundred hands are now employed, to be increased in October to six hundred, and the work will be pressed to its completion with the utmost energy. It is the expectation and determination of the Company to have it finished and in operation in two years from this time.

Fernandina is situated at the northern point of Amelia Island, at the mouth of St. Mary's Sound. It has an admirable harbor, with an ample depth of water for a large commerce. It is about 162 miles from Charleston, or about twelve hours run by steamers. The road across the Peninsula (140 miles) can be readily travelled in four and a half hours, and the time between Cedar Keys and New Orleans, by steamers, will not exceed twenty-four hours. This will make the entire time between Charleston and New Orleans, by this route, about forty-one hours.

The pressing importance of establishing, at the earliest possible time, a direct steam communication between Charleston and Fernandina, is apparent. This will, to a great extent, counteract the serious mistake which was made in permitting Charleston to be thrown off the great line of travel between the North and South by the construction of the Wilmington and Manchester railroad. Fernandina will be the outlet of a valuable amount of produce, even during the coming season, and when the railroad is finished, it must, inevitably, be a great thoroughfare of travel.—*Charleston Mercury.*

Oceanic Telegraph.

The great problem of placing the old world and the new in a telegraphic connection is soon to be tested. Next week the United States steamer Arctic will sail from this port with a competent scientific corps on board, to complete the necessary oceanic surveys, in which Lieut. Berryman, the commander of the present expedition, has already been engaged. It has been shown by Lieut. Maury that between Newfoundland and the coast of Ireland there is, for a considerable portion of the distance, a comparative elevation of the bottom, which he denominates the telegraphic plateau. Along this it is proposed to carry the wires of the submarine telegraph; the distance between these two points is a little over 1,600 geographical points.

In the view of Lieut. Maury, with whom we have conversed, and who gives his active co-operation in the enterprise, there is no reason why this great work cannot be completed in one year from the present time. The wire can be made during the approaching winter, so as to be in readiness for the laying down next spring. It was upon the plateau above noticed that the Brooke's celebrated sounding apparatus brought up its first trophies from the bottom of the sea. These specimens Lieut. Berryman and his officers judged to be clay, but upon being submitted to microscopic examination, they were found to consist of calcareous shells, unmingled with sand or any foreign substance. It was deemed probable that the occupant lived near the surface of the water, but that the shells settled to the bottom after death. According to Lieut. Maury, the inference is, that in the place of their deposit, if anywhere, the waters are at rest. "There was not motion enough there to abrade these very delicate organisms, nor current enough to sweep them about and mix up with them a grain of the finest sand, nor the smallest particle of gravel torn from the loose beds of the debris that here and there strew the bottom of the sea." This plateau is not too deep for the wire to sink down and rest upon, yet it is not so shallow that currents or icebergs or any abraded force can derange the wire after it is once lodged. Icebergs have been known to ground at a depth of 700 feet. The month of June is the most favorable part of the year for laying the submarine wire. Though fogs are most frequent at that time, gales seldom occur to roughen the sea.

Cyrus W. Field and Peter Cooper (the New York, Newfoundland and London Telegraph company) are the gentlemen principally concerned in the success of the undertaking; and the general government, while promoting scientific research, has wisely determined to afford encouragement to private enterprise, in the practical application of scientific principles, by employing the United States propeller Arctic, (well known in connection with Polar explorations) in taking soundings on the telegraphic plateau, preparatory to laying the cable. Several of the officers of the Arctic are peculiarly qualified for the service. Beside Lieut. Strain, whose narrative of sufferings and achievements in the Isthmus of Darien is well known, she will take out Mr. Brooke, U. S. N., the inventor of the sounding instrument bearing his name, by which specimens of the bottom are furnished; also, Midshipman Mitchell, who was with Captain Berryman on the United States surveying brig Dolphin, and became remarkably expert in obtaining deep soundings. From the experience then had, it is expected that the average depth of water on the plateau will be from 2,000 to 2,800 feet. The officers of the Arctic are as follows:

1. Lieut. Commanding—O. H. Berryman. 2. Lieutenant—J. G. Strain. 3. Acting Master—J. G. Mitchell. 4. Passed Midshipman—C. F. Thomas. 5. Midshipman—J. C. Barnes. 6. 1st Assist. Engineer—H. Newell. 7. 3d Assist. Engineer—L. Williams. 8. Draftsman—A. Von Burck.

The Arctic will first steer north for Newfoundland, taking out provisions for ninety days, and a moderate supply of coal, expecting to replenish the latter at Newfoundland, as may be found necessary. The instruments furnished are the most

important part of her equipment. First, is Brook's instrument, consisting of an iron spindle about three and a half feet in length, the lower extremity of which is a tubular, filled with the open barrels of quills. This spindle passes through either a perforated 68 pound shot or a pear shaped leaden weight (100 or 150 pounds) two feet in length, suspended by brass wire. The spindle projects below the weight, so that when the latter touches bottom, the wire unhooks by a very simple, yet ingenious contrivance, leaving the weight detached. Above the weight is secured "Massey's attached," for determining the depth—a vertical propeller turned by the downward motion of the lead, and which indicates the depth on a graduated dial, by showing the number of revolutions made by the propeller. A clam is raised while the lead is descending, and falls when the motion ceases, stopping the propeller, so that no false indications can be given by the lateral current. Thus three elements may be employed to form the basis of a calculation of depth; the length of time required for a weight to descend; the position of the indicator, and the measured length of the line. From the lower end of the spindle, specimens are found, adhering to the tallow lining of the quills. The sounding line is being made at the Government ropewalk in Boston, which is the largest in the country, and will comprise 10,000 fathoms. A steam reel, with which to use the line is making in this city. It will be run by a small engine placed on deck. It is supposed that a depth of 5,000 fathoms, or nearly five miles, may be measured without breaking the line, as no part of the sounding apparatus is returned, but the spindle. Besides thermometers for determining the temperature of the ocean at the various depths, are other instruments designed to elucidate the physical geography of the ocean.

The description of wire to be used is not fully decided upon, though there is no doubt but that the one adopted will be smaller, lighter and more pliable than the one lost a few months ago on the coast of Newfoundland. Still another wire, of much the same character, was lost while attempting to connect Corsica with the North coast of Africa. Such an one as is required can be manufactured at the rate of eighteen miles a day. A light flexible wire laid in the Black Sea, between Varna and Balaklava, was laid without difficulty, the steamer employed going five miles per hour without once stopping.

Should the survey on which the Arctic is now employed terminate as favorably as anticipated, it is probable the wire will be laid at the earliest practical day. Profiting by the experience of the past, it is determined to employ two steamers in laying the wire. They will proceed from England, having on board equal portions of the line. Uniting these, each will proceed direct to the opposite shores, passing out the cable as she sails, thus avoiding the fatal difficulty before encountered, when it was attempted to tow the vessel having the cable on board, and a gale arising, both of them became unmanageable. Furthermore, the time required to lay the line is reduced one-half by the process now proposed, so that six days is considered a liberal allowance for the execution of the work. It is thought the wire will offer little impediment to the progress of the steamers. A curious circumstance will be the manner of maintaining telegraphic communication between the two vessels while this work is going on, it being in view to connect the extremities of the wire on each ship with galvanic batteries, so that the electric current will pass through the huge pile on each vessel, as well as through all such portions as may be submerged, conveying intelligence instantaneously and uninterruptedly, uninfluenced by apparent obstacles or confusion. The progress of each vessel can thus be regulated with reference to their relative position, or other incidental circumstances. Success is regarded as certain. The same parties commenced laying a wire seventy-five miles in length, on the 2d inst., between Cape Ray and Cape Breton, and have now probably completed their work.

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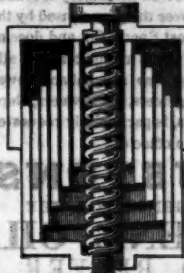
Fig. 1



Fig. 2



Fig. 3



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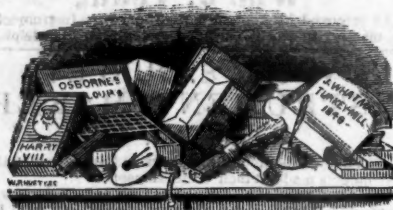
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